**Avaya Solution & Interoperability Test Lab**

# Application Notes for Avaya Communication Server 1000E R6.0 with Frox Communications Atiras R7.0 – Issue 1.0

## Abstract

These Application Notes describe how to configure Avaya Communication Server 1000E (software release 6.0) to interwork with Frox Communications Atiras R7.0 as a system management platform. Atiras network management system is a modular software package with which everyday telephone tasks can be automated and system data can be extracted to allow optimization of system functions.

Information in these Application Notes has been obtained through DevConnect Compliance testing and additional technical discussions. Testing was conducted via the DevConnect Program at the Avaya Solution and Interoperability Test Lab.

# 1. General Test Approach and Test Results

These Application Notes describe the test configuration for Frox Communications Atiras R7.0 with an Avaya Communication Server 1000E R6.0. Atiras is a client/server based all-in-one service application platform running on Microsoft Windows operating systems. Atiras provides effective Communication Server 1000E configuration management, i.e., telephone configuration, route management, network management, call costs retrieval and report generation. A PC based attendant position (with a web client for directory lookup) is included as well as traffic analysis and fault data reporting. The Atiras server software is installed on a dedicated server platform; client software can be installed in multiple desktops. A web based client is also available (Internet Explorer and Firefox are supported). Atiras can manage multiple systems in a single network, or multiple systems on multiple networks. Atiras provides significant benefits to end users with large numbers of deployed installations who require a sophisticated multi system management tool.

# 2. General Test Approach and Test Results

The general test approach was to configure a simulated enterprise voice network using a Communication Server 1000E Network Routing Server (NRS) and two Communication Server 1000E systems, each connected to the NRS via SIP trunks. All SIP traffic was routed by the NRS. See **Figure 1** for a network diagram.

Atiras uses multiple interfaces to connect to an Avaya Communication Server 1000E system. The Atiras server requires a LAN connection which routes to the Communication Server 1000E T-LAN. This is used to collect system data, access maintenance overlays and perform user data updates. A Lantronix terminal server is used to allow the Communication Server 1000E serial port data to be retrieved remotely via an Ethernet connection. This is necessary to retrieve call detail recording data and traffic reports. The terminal server connects to the T-LAN and to the Communication Server 1000E #2 com port 1; Atiras is then configured to access Communication Server 1000E via the terminal server for specific applications.

Atiras contains a software based Attendant answering position; which interfaces to the Communication Server 1000E by controlling an Avaya 2250 Attendant Console. This allows remote display of the Avaya 2250 functions. The connection between the Avaya 2250 and Atiras is RS232; a USB to Serial converter is used as often serial ports are not available on modern servers.

A variety of Avaya telephones were installed and configured on each Communication Server 1000E. The NRS was configured to route calls between the two Communication Server 1000E's. The Atiras client was installed on the same server as the Atiras Server, but can be installed on a separate machine if required.

## 2.1. Interoperability Compliance Testing

The compatibility tests included the following:

- Retrieve and synchronize all telephone data from Communication Server 1000E
- Perform basic telephone management (add new phones, change existing phones, move a phone to a different line card)
- Perform enhanced phone settings management (add system speed call lists, change PLDN's, delete TSP's, run batch jobs)
- Retrieve Corporate Directory information from the Communication Server 1000E
- Retrieve Call Detail Recording data from the Communication Server 1000E
- Charge calls to accounts and verify the charges are recorded
- Monitor system messages over the serial port to detect alarms
- Answer incoming calls on the Attendant answering position
- Perform Communication Server 1000E access security tests
- UNP Network handling
- NRS handling

## 2.2. Test Results

The following observation was made during Atiras R7.0 testing.

**Not Possible to upload Corporate Directory files to Communication Server 1000E using Atiras R7.0**

Atiras R7.0 attempts to send Corporate Directory files to the Communication Server 1000E, but is unable to do this as it is not able to access the correct folder on Communication Server 1000E. A workaround is to manually upload the files using secure FTP.

## 2.3. Support

For technical support on Frox Communications products, please use the following web link.
http://www.frox.com/en/10052/Contact.html

# 3. Reference Configuration

The following **Figure 1** shows the network configuration used for all test cases in the test plan.

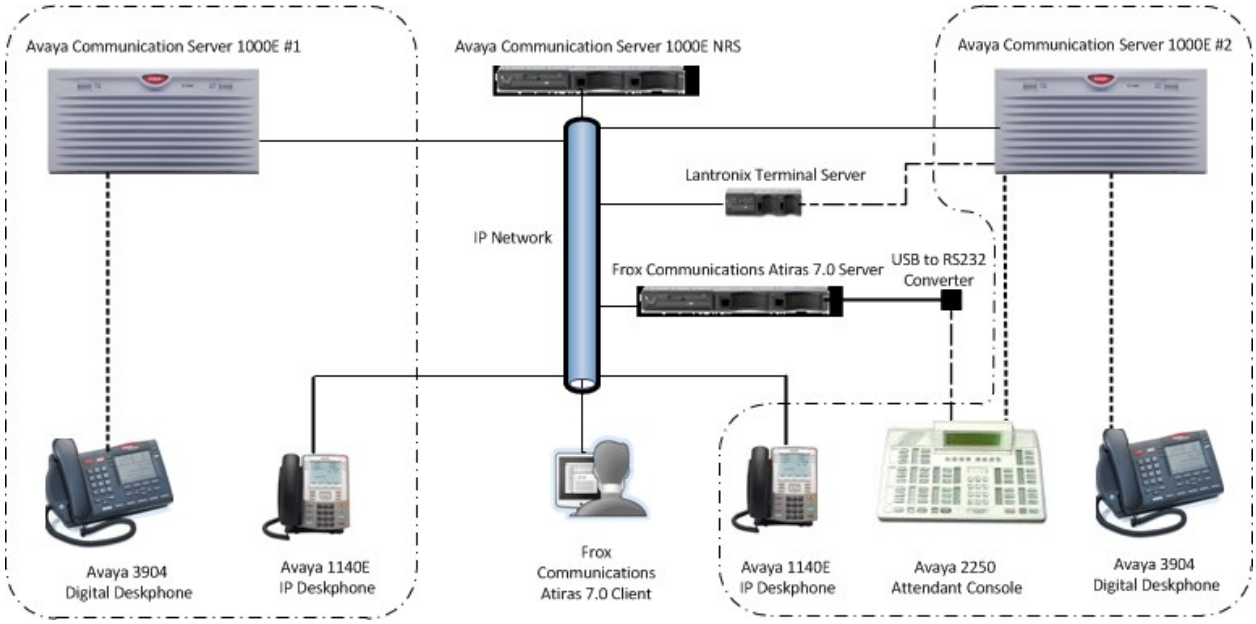



**Figure 1: Test Configuration for Avaya Communication Server 1000E and Frox Communications Atiras R7.0**

# 4. Equipment and Software Validated

The following equipment and software were used for the sample configuration provided:

| Avaya Equipment | Software / Firmware Version |
|---|---|
| Avaya Communication Server 1000E | Avaya Communication Server 1000E 06.00R / 6.00.20.00<br>(PSWV 100 with latest Patches and Deplist) |
| Avaya Communication Server 1000E Media Gateway | CSP Version: MGCC AO01<br>MSP Version: MGCM AB01<br>APP Version: MGCA AA07<br>FPGA Version: MGCF AA15<br>BOOT Version: MGCB AL60<br>DSP1 Version: DSP1 AB01<br>DSP2 Version: DSP2 AB01 |
| Avaya 1100 series IP Telephones<br>• 1140e<br>• 1120e<br>Avaya M3900 series Telephones<br>• M3904<br>Avaya Attendant console<br>• 2250 | 0625C7M (UniStim 4.2)<br>0624C7M (UniStim 4.2)<br><br>Version: AA93 |
| **Frox Communications Equipment** | **Software / Firmware Version** |
| Frox Communications Atiras Server | Atiras R7.0Ma P01 |
| Lantronix Terminal Server EDS2100 | V5.2.0.0_R20 |

# 5. Configure Avaya Communication Server 1000E NRS

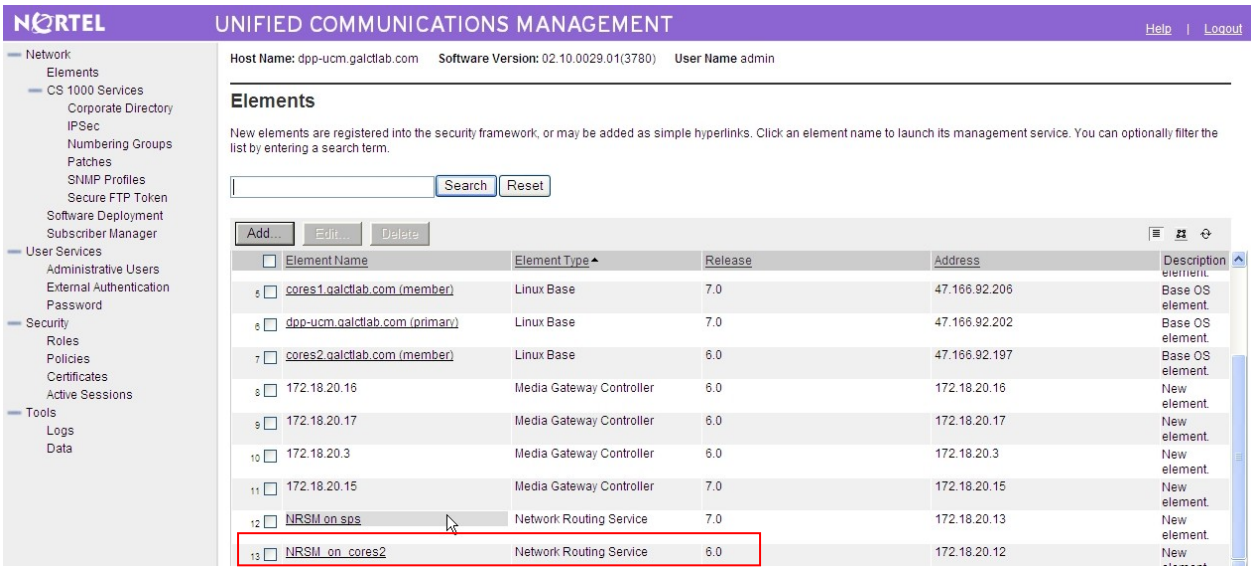
This section describes the steps required to configure Communication Server 1000E Network Routing Service (NRS) prior to testing with Atiras R7.0. The general installation and configuration of Communication Server 1000E NRS and UCM is presumed to have been previously completed and is not discussed here. The function of the NRS is to route SIP traffic between two or more Communication Server 1000E systems, NRS configuration requires the following actions:

- Log on to Avaya Unified Communications Management and Network Routing Services Manager and configure System Wide Settings
- Administer SIP, L1 and L0 domains
- Administer SIP Endpoints
- Administer Routing Entries

For detailed information on installing and configuring Communication Server 1000E NRS, see item **[2]** in **Section 10** of this document.

## 5.1. Unified Communications Management (UCM), Network Routing Services Manager (NRSM) and System Wide Settings

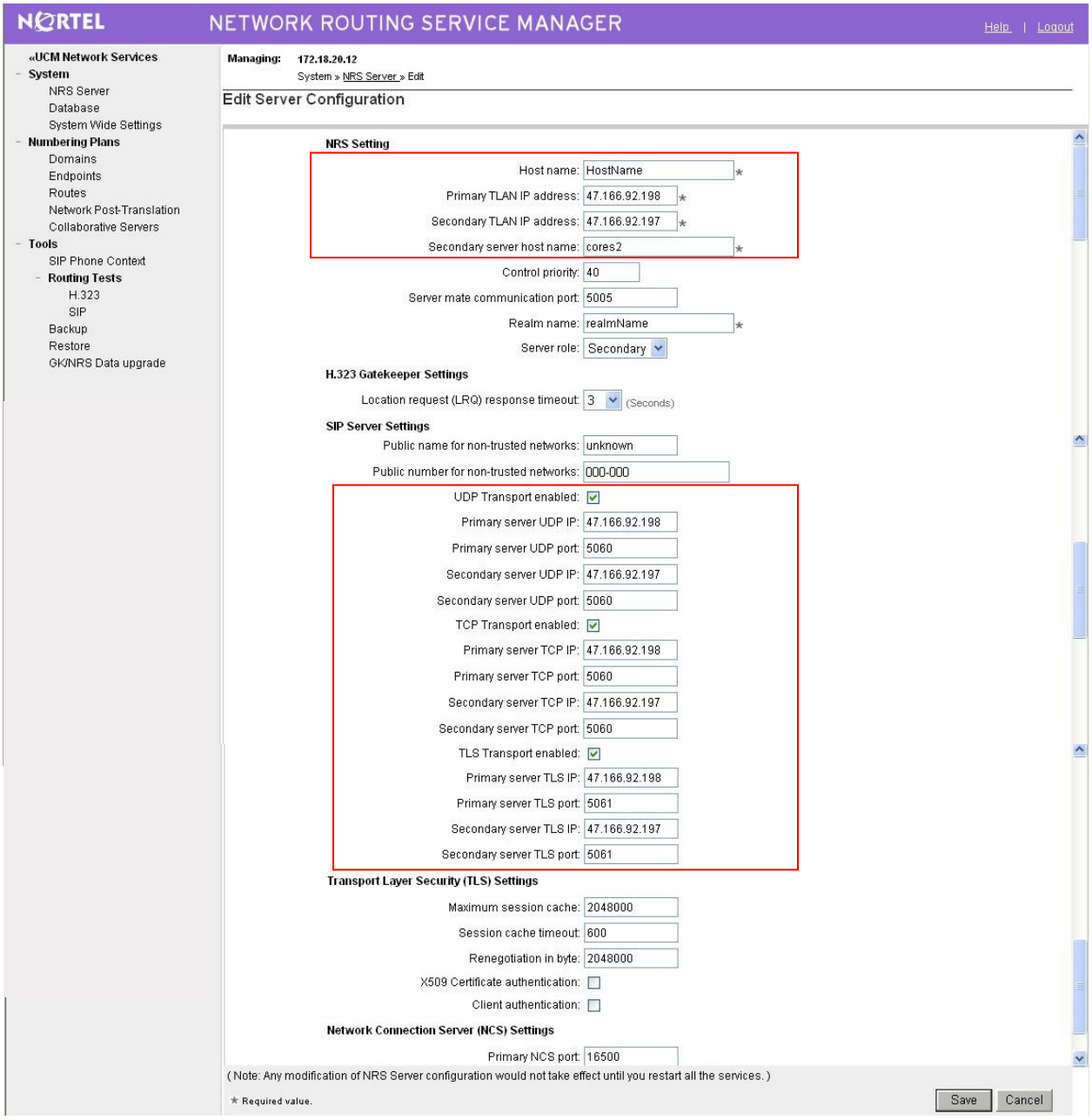
Access UCM using a Web Browser by entering **http://<FQDN >/**, where **<FQDN>** is the fully qualified domain name of the UCM server. Log in using appropriate credentials (not shown) and the Home page will be presented with menu options shown below. Scroll down and select **NRSM on cores2** from the Elements list.



The Network Routing Service Manager (NRSM) page will open in a new window (see following screenshot). Click on the **Edit** button (not shown), the **Edit Server Configuration** window opens. The following settings are required to be configured:

- **Hostname**, this is the primary NRS network name
- **Primary TLAN IP address**, the primary NRS IP address
- **Secondary TLAN IP address**, IP address of a secondary NRS (if required)
- **Secondary server host name**, secondary NRS network name
- **UDP Transport enabled**, checkbox must be ticked
- **Primary server UDP IP**, same as Primary TLAN IP address
- **Primary server UDP port**, must be set to 5060
- **Secondary server UDP IP**, same as Secondary TLAN IP address (if required)
- **Secondary server UDP port**, must be set to 5060 (if required)
- **TCP Transport enabled**, checkbox must be ticked
- **Primary server TCP IP**, same as Primary TLAN IP address
- **Primary server TCP port**, must be set to 5060
- **Secondary server TCP IP**, same as Secondary TLAN IP address (if required)
- **Secondary server TCP port**, must be set to 5060 (if required)
- **TLS Transport enabled**, checkbox must be ticked
- **Primary server TLS IP**, same as Primary TLAN IP address
- **Primary server TLS port**, must be set to 5061
- **Secondary server TLS IP**, same as Secondary TLAN IP address (if required)
- **Secondary server TLS port**, must be set to 5061 (if required)

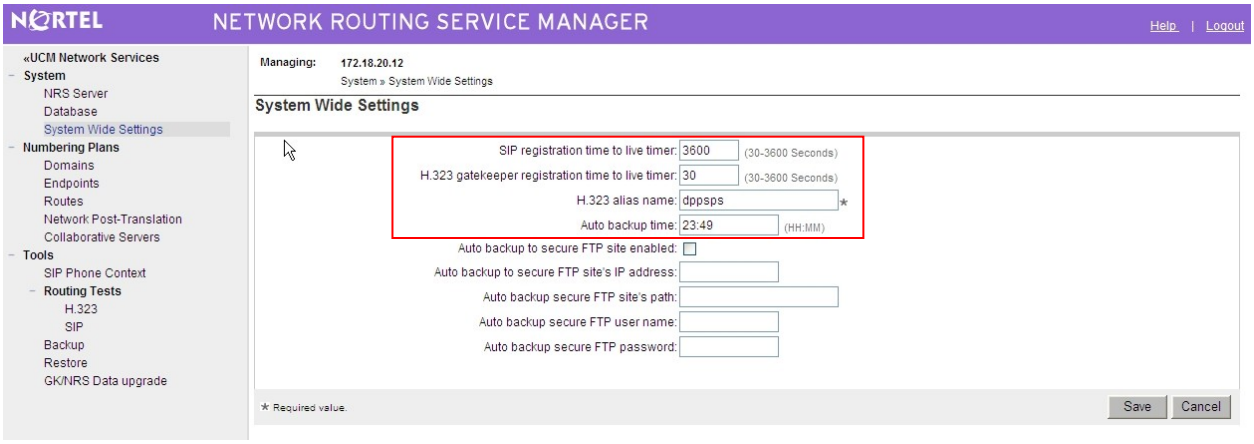
When finished, click on the **Save** button.



Select **System Wide Settings** from the side menu, the **System Wide Settings** page will appear (see the following screenshot). Configure the following values:

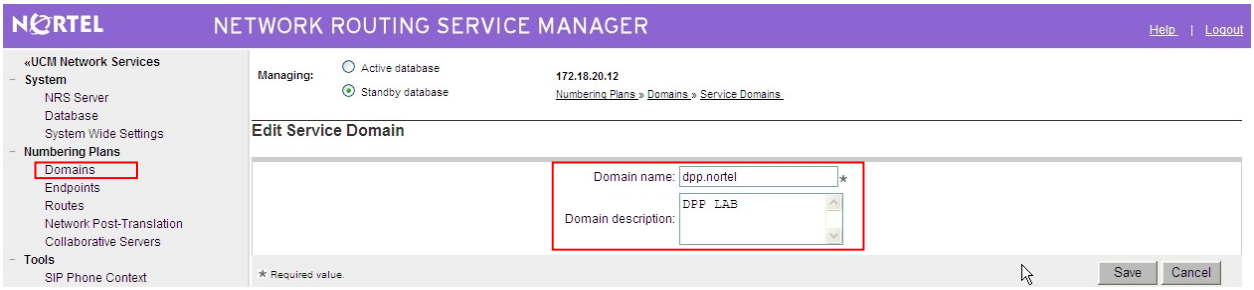
- **Sip registration time to live timer**, set to **3600** seconds
- **H.323 gatekeeper time to live timer**, set to **30** seconds
- **H.323 alias name,** set to **dppsps** in this example
- **Auto backup time**, the NRS automatic backup script runs at this time

Click on the **Save** button when finished.

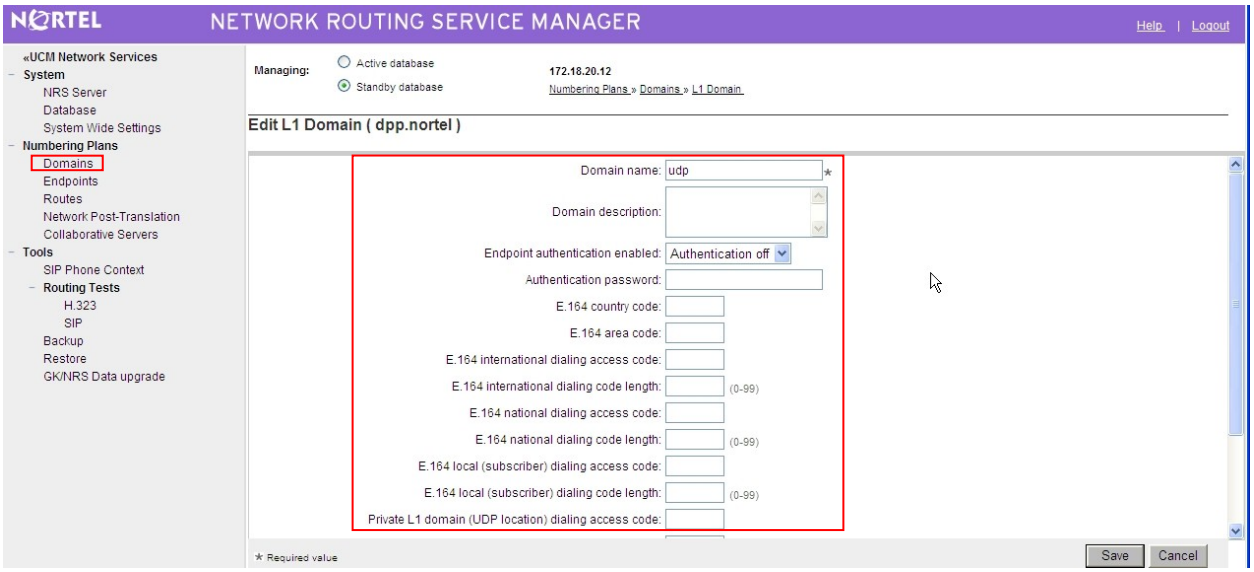



## 5.2. Administer SIP Service Domain, L1 and L0 domains

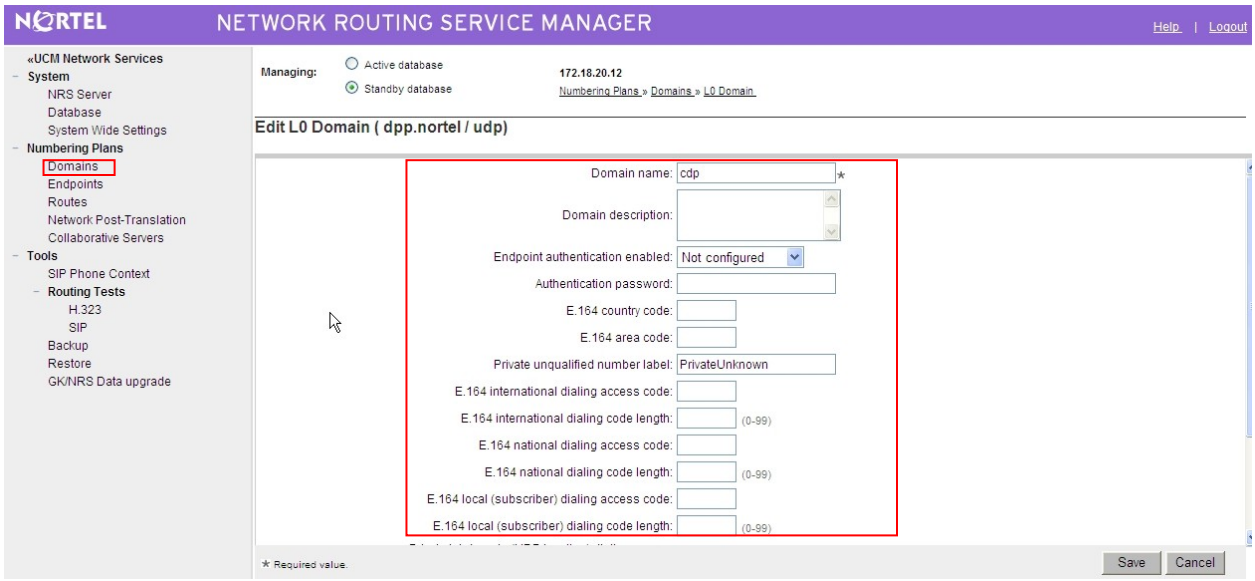
Ensure the **Managing Standby database** radio button is checked. Click on **Domains** from the left hand side menu, the **Edit Service Domain** page appears. Enter the required **Domain name** and an (optional) **Domain description**. Click on the **Save** button when finished.



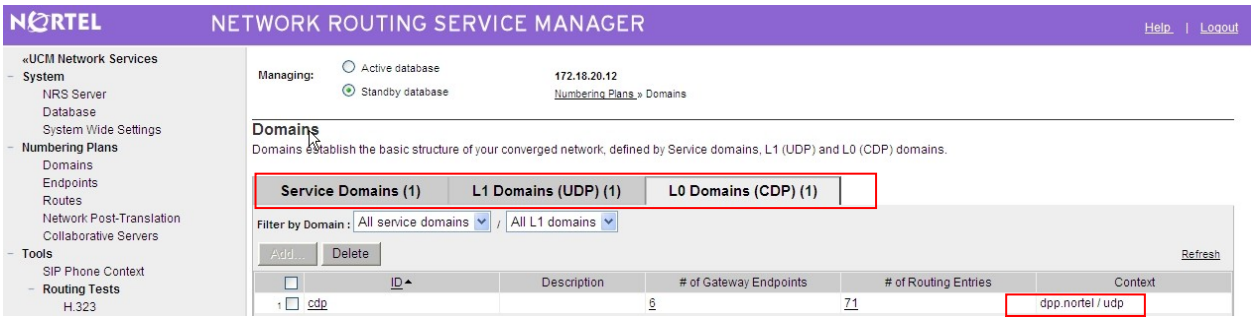
The Service Domain page now reappears with three tabs. Ensuring the **Managing Standby database** radio button is checked, click on the **L1** tab (not shown) and select the service domain previously configured from the **Filter by Domain** drop down box (not shown). Enter the **Domain name** (**UDP** in the example) in the **Edit L1 Domain** page (see the following screenshot). Ensure **Endpoint authentication enabled** is set to **authentication off**. The remaining parameters can be set to values appropriate for the installation. Click on the **Save** button when completed.



Ensure the **Managing Standby database** radio button is checked. Click on the **L0** tab (not shown), the **Edit L0 Domain** page appears. Select the configured service domain from the **Filter by Domain** drop down box (not shown) and then the previously configured L1 domain from the **Filter by L1 Domain** drop down box (not shown). Enter the **Domain name** (**CDP** in the example shown); ensure **Endpoint authentication enabled** is set to **Not configured** (see following screenshot). The remaining parameters can be set to values appropriate for the installation. Click on the **Save** button when completed.

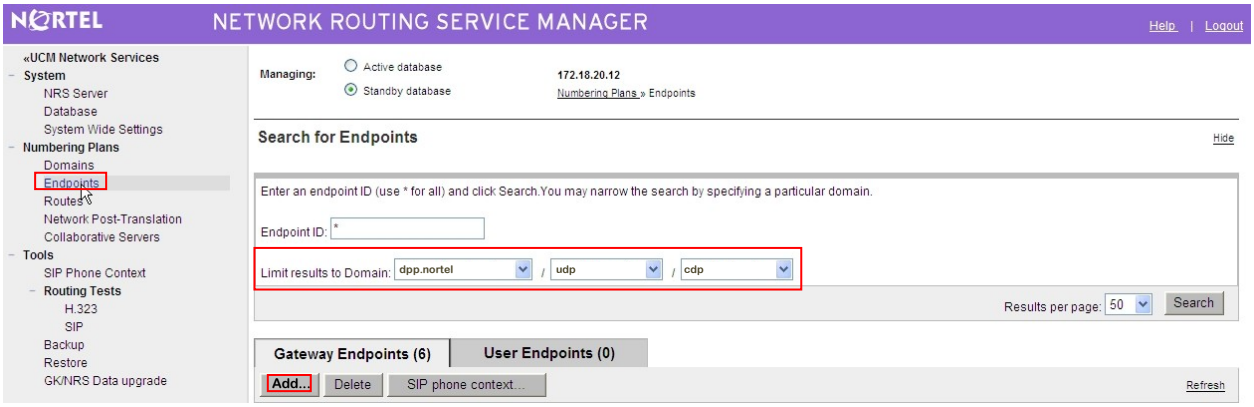



This completes the NRS Domain configuration. The next screenshot is an example of the fully configured SIP **Service Domain**, **L1** and **L0** domains.



## 5.3. Administer SIP Endpoints

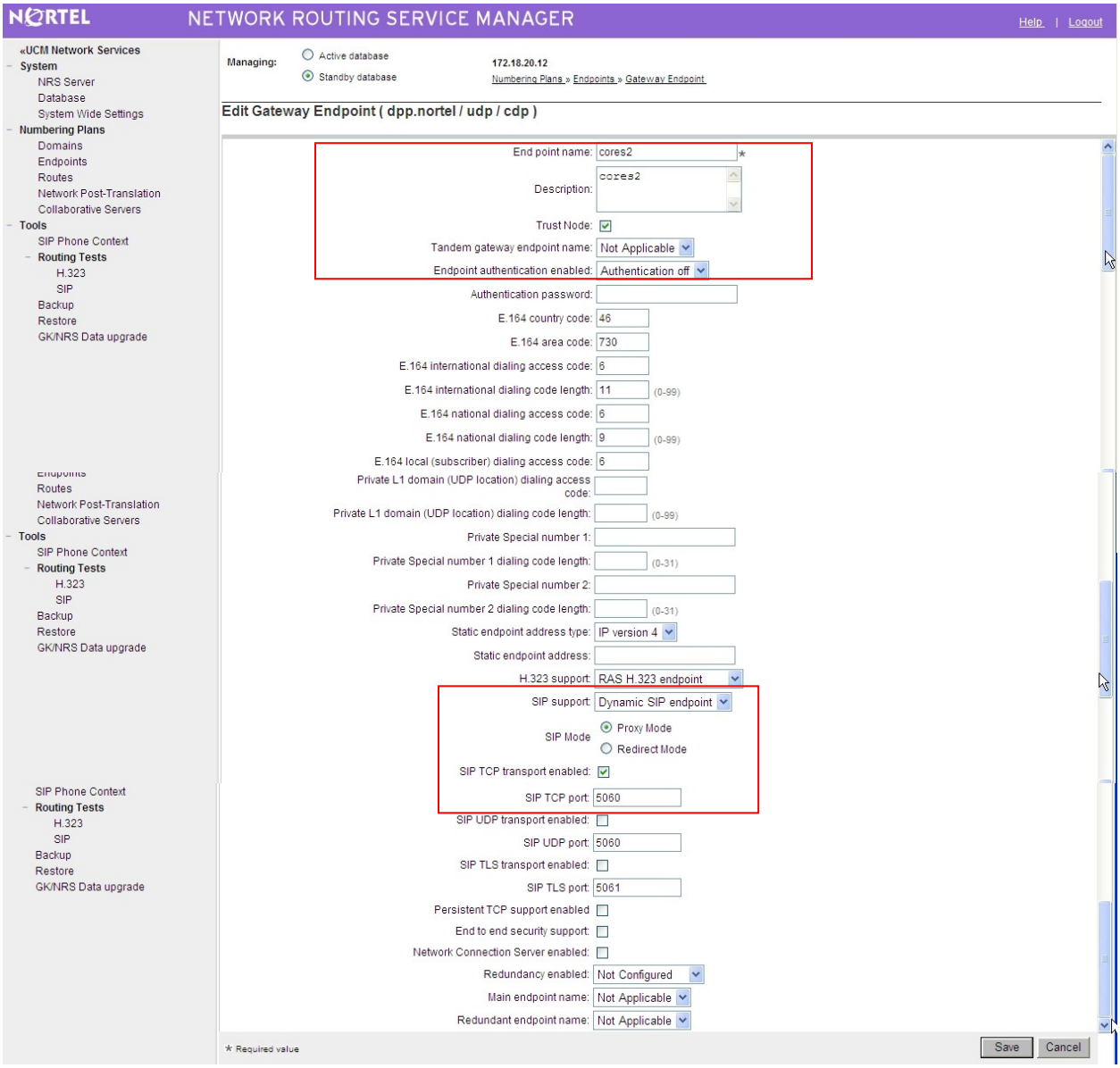
SIP endpoints must register with the NRS before sending or receiving SIP traffic. Endpoints are typically Communication Server 1000E systems, but may also be SIP telephones or third party SIP proxies. Ensure the **Managing Standby database** radio button is checked. Click on the **Endpoint** entry in the left hand side menu and in the resulting page select the previously configured SIP, L1 and L0 domains from the **Limit results to Domain** suite of drop down lists (not shown). The following screenshot shows the previously entered SIP, L1 and L0 domains highlighted.




When drop down lists have been populated with the correct values, the **Add** button is then activated and a new endpoint can be added. Click on the **Add** button and enter the endpoint data. See the highlighted area in the following screenshot for information.

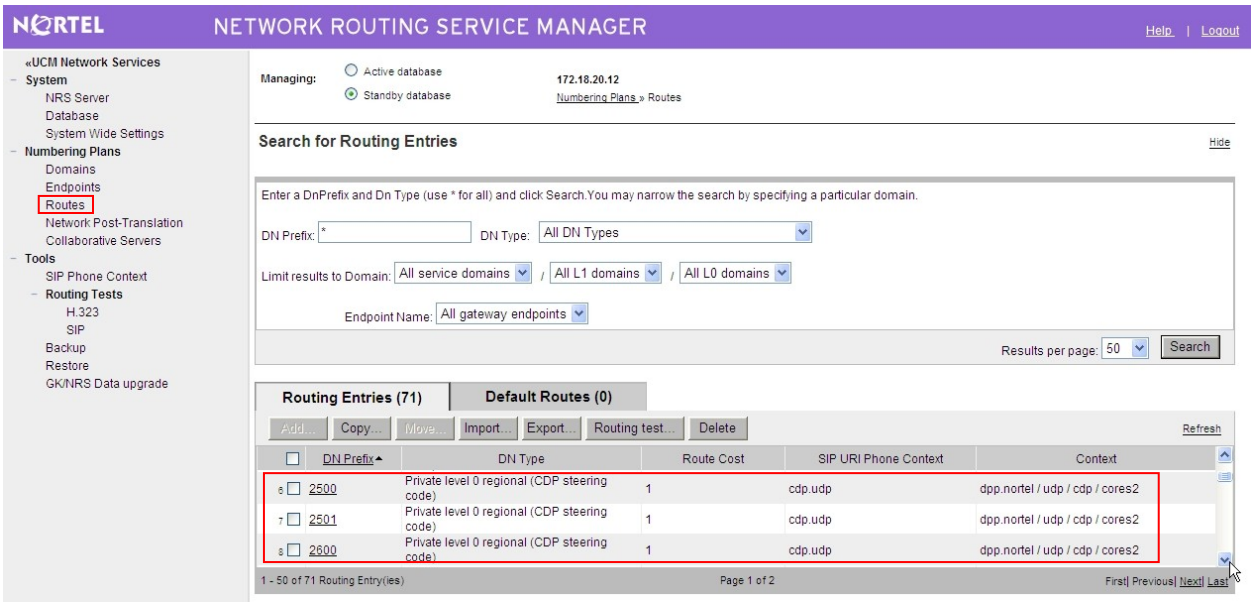
- **End point name** (**cores2** in this example) must match that configured later in **Section 6.4**
- **Description** is typically some text to describe the endpoint
- **Trust Node** must be checked
- **Tandem gateway endpoint name** is set to **Not Applicable**
- **Endpoint Authentication enabled** is set to **Authentication off**
- **SIP Support** must be set to **Dynamic SIP endpoint**
- **SIP Mode** must be set to **Proxy**
- **SIP TCP transport enabled** checkbox must be ticked
- **SIP TCP port** must be **5060**

The remaining values will be specific to the particular location and endpoint being configured, examples of typical values are shown, and the correct values must be entered before the endpoint is brought into service. Click on the **Save** button to confirm the settings.



## 5.4. Administer Routing Entries

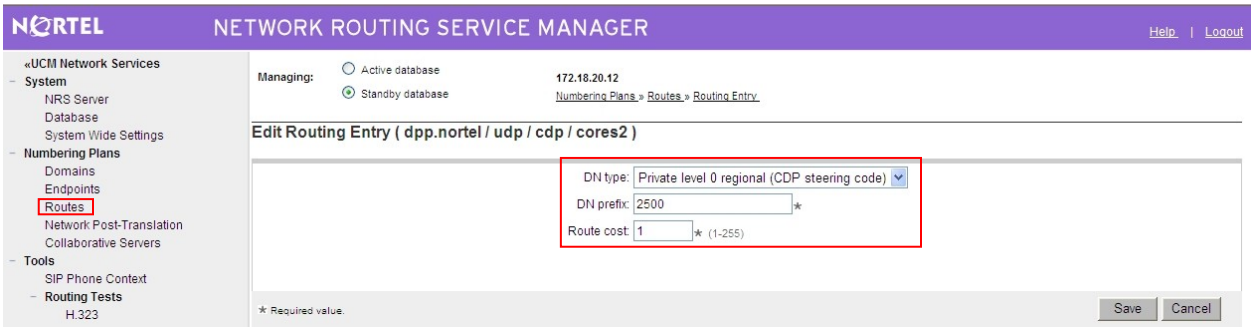
Routing entries are telephone numbers associated with an endpoint. When a telephone number is dialed, the NRS searches the endpoint database to find a match and then directs the call to the endpoint with the first returned match. Endpoints can be entered as a range of telephone numbers (e.g., 756*, which matches all numbers beginning with 756) or as a list of unique numbers. Unique listings reduce unnecessary SIP messaging, but require significantly more effort to setup and maintain. Atiras manages system data associated with telephone numbers by automatically populating the NRS database when a telephone is added to a Communication Server 1000E and removing the data when a telephone is deleted. The following screenshot shows the routing entries initially setup on the Communication Server 1000E.



To add a new routing entry, ensure the **Managing Standby database** radio button is checked. Click on the **Routes** entry in the left hand side menu and in the resulting page select the previously configured **SIP, L1 and L0** domains from the **Limit results to Domain** suite of drop down lists. When drop down lists have been populated with the correct values, the **Add** button is activated (not shown) and a new route can be added. Click on the **Add** button and enter the route data:

- Select **Private level 0 regional (CDP steering code)** from the **DN type** drop down list
- **DN prefix** is a four digit telephone number.
- **Route cost** is set to **1**.

Click on the **Save** button when finished. The following screenshot shows an example routing entry.




This completes the Communication Server 1000E NRS setup. To add more endpoints, repeat **Sections 5.3** and **5.4.**

# 6. Configure the Avaya Communication Server 1000E

This section describes the steps required to configure Communication Server 1000E SIP trunks and the necessary configuration for terminals (digital, analog, attendant and IP phones). SIP trunks are established between Communication Server 1000E and the NRS and are used for all off switch calls. To reach telephone numbers on other Communication Server 1000E systems, calls are placed via the NRS, which proxies SIP messages. The general installation of the Avaya Communication Server 1000E, NRS and UCM is presumed to have been previously completed and is not discussed further here.

## 6.1. Confirm System Features

The keycode installed on the Call Server controls the maximum values for system attributes. If a required feature is not enabled or there is insufficient capacity, contact an authorized Avaya sales representative to add additional capacity. Use the Communication Server 1000E system terminal and manually load **overlay 22** to print the **System Limits** (the required command is SLT), and verify there are sufficient **Traditional Telephones, IP Users, Basic IP Users** and **SIP Access Ports** to meet requirements.

```
                        Overlay 22 - system Limits (SLT) Printout

System type is - Communication Server 1000E/CPPM Linux
CPPM - Pentium M 1.4 GHz

IPMGs Registered:               1
IPMGs Unregistered:             0
IPMGs Configured/unregistered:  0

TRADITIONAL TELEPHONES 32767    LEFT 32764    USED     3
DECT USERS             32767    LEFT 32767    USED     0
IP USERS               32767    LEFT 32744    USED    23
BASIC IP USERS         32767    LEFT 32761    USED     5
TEMPORARY IP USERS     32767    LEFT 32767    USED     0
DECT VISITOR USER      10000    LEFT 10000    USED     0
ACD AGENTS             32767    LEFT 32752    USED    15
MOBILE EXTENSIONS      32767    LEFT 32767    USED     0
TELEPHONY SERVICES     32767    LEFT 32767    USED     0
CONVERGED MOBILE USERS 32767    LEFT 32767    USED     0
NORTEL SIP LINES       32767    LEFT 32765    USED     2
THIRD PARTY SIP LINES  32767    LEFT 32761    USED     6
SIP CONVERGED DESKTOPS 32767    LEFT 32767    USED     0
SIP CTI TR87           32767    LEFT 32767    USED     0
SIP ACCESS PORTS       32767    LEFT 32752    USED    15
```

Load **overlay 21**, and confirm the customer is setup to use **ISDN** trunks (see below).

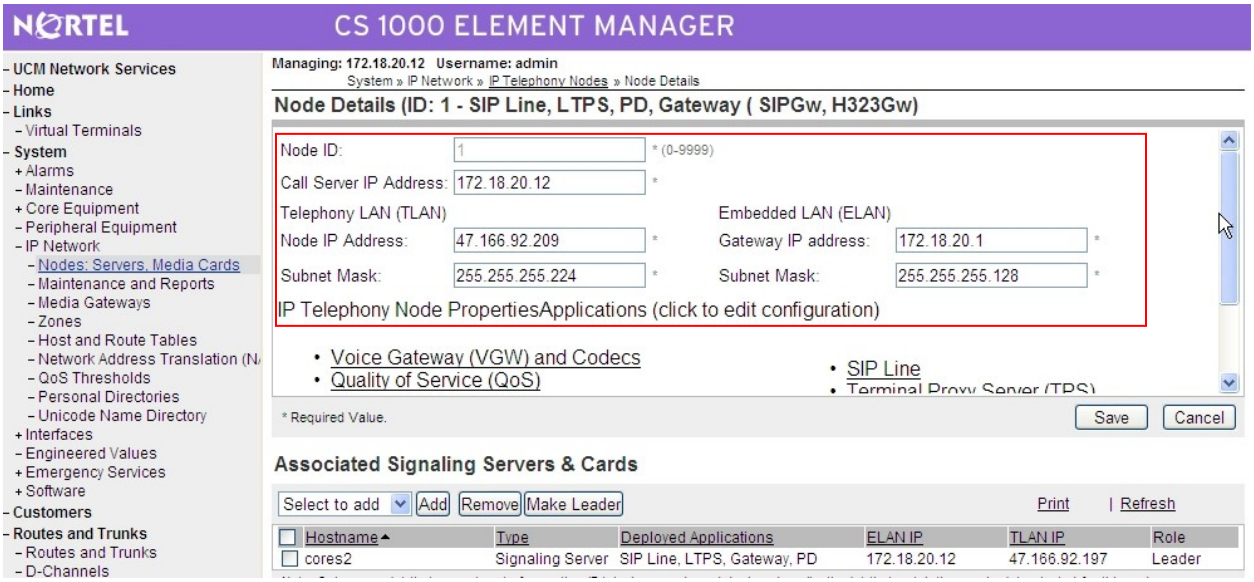
```
                              Overlay 21 Customer Network Data
REQ: prt
TYPE: net
TYPE NET_DATA
CUST 0

TYPE NET_DATA
CUST 00
OPT RTD
AC1 INTL NPA SPN NXX LOC
AC2
FNP YES
ISDN YES
```

## 6.2. Configure System Node Information

Use Communication Server 1000E Element Manager to configure the system node properties. Navigate to the **System → IP Networks → IP Telephony Nodes → Node Details** and click on the **Add** button (not shown), the node details page appears (see following screenshot). Fill in the following settings:

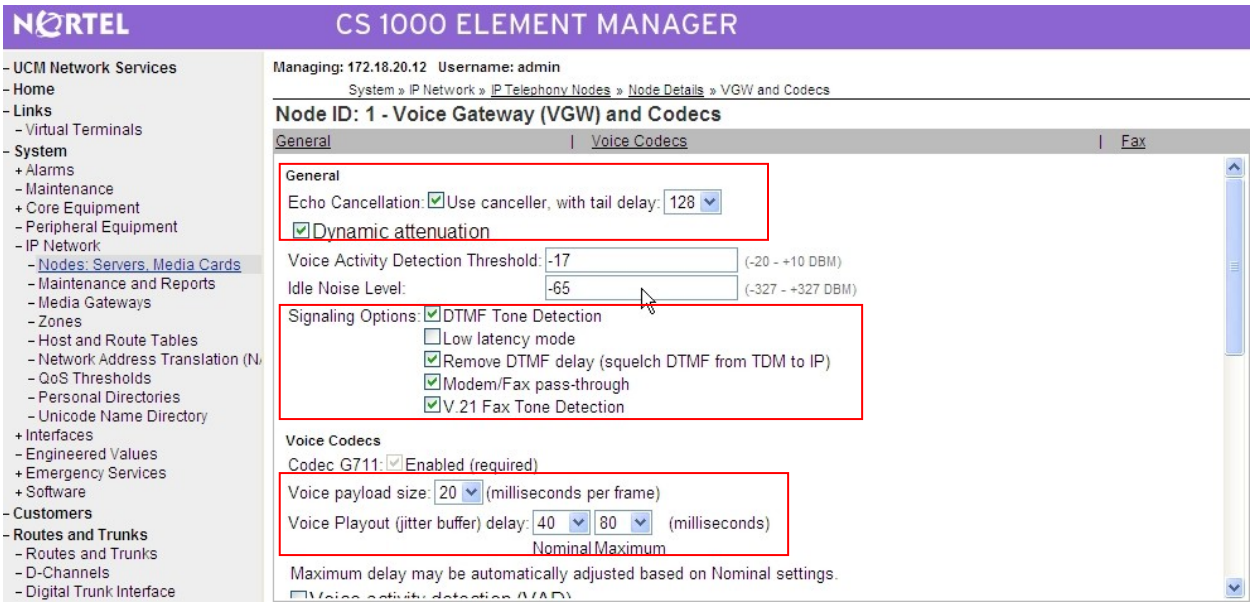
- **Node ID**, a unique numerical value to identify the node
- **Call Server IP Address**, IP address of the Communication Server 1000E call processor
- **Telephony LAN (TLAN) Node IP Address**, a unique IP address for the node
- **Telephony LAN (TLAN) Subnet Mask**, the TLAN network Subnet Mask
- **Embedded LAN (ELAN) Gateway IP Address**, the node ELAN gateway IP address
- **Embedded LAN (ELAN) Subnet Mask**, the ELAN network Subnet Mask

Click on the **Save** button when finished.



## 6.3. Configure System Codecs

Communication Server 1000E uses codecs to convert digital and analog telephone speech into a format suitable for SIP trunks. Before SIP trunks can be utilised, system codecs must be selected. Using the Communication Server 1000E element manager sidebar, click on **Nodes: Servers, Media Cards** and navigate to the **IP Network → IP Telephony Nodes → Node Details → VGW and Codecs** property page and configure the Communication Server 1000E General codec settings as in the next screenshot. The values highlighted are required for correct operation.

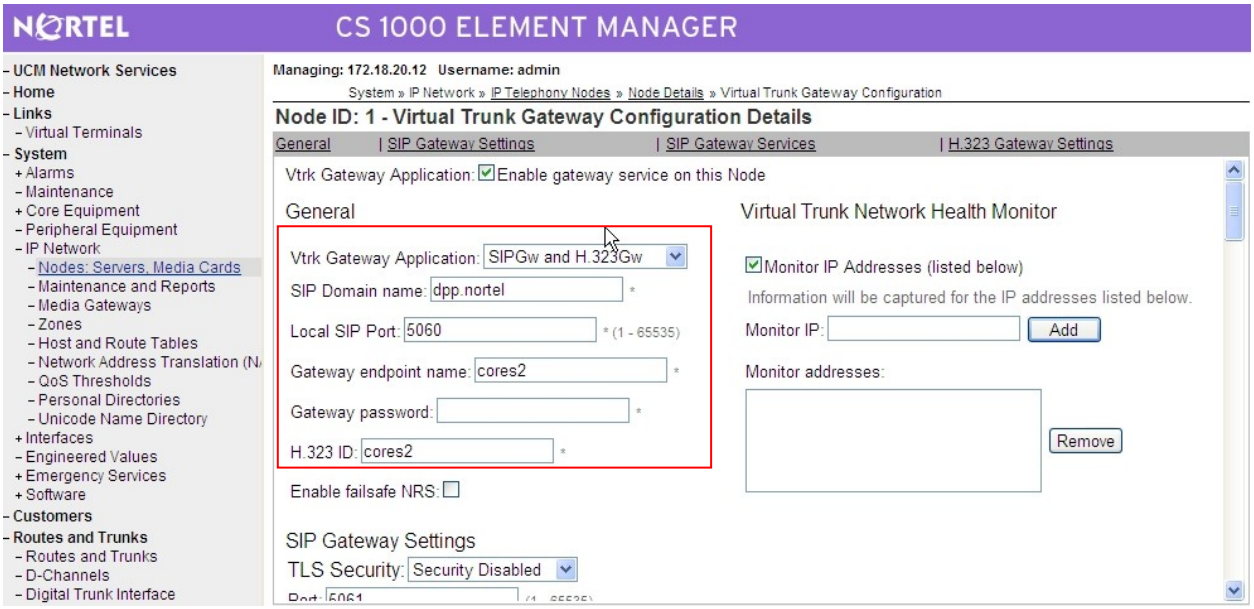



Scroll down to the bottom of the page and click on the **Save** button (not shown).

## 6.4. Virtual Trunk Gateway Configuration

The next screenshot shows the SIP Virtual Trunk Gateway configuration. To successfully setup Virtual trunks, the Virtual Trunk Gateway (i.e., the application that registers with the NRS to route call traffic) settings must be configured correctly. The majority of settings on this page will match those previously used when setting up the NRS properties because the gateway needs to be in the same SIP domain as the NRS and use known aliases and ports. Navigate to **System → IP Network → IP Telephony Nodes → Node Details → Virtual Trunk Gateway Configuration** and fill in the highlighted areas with the following settings.

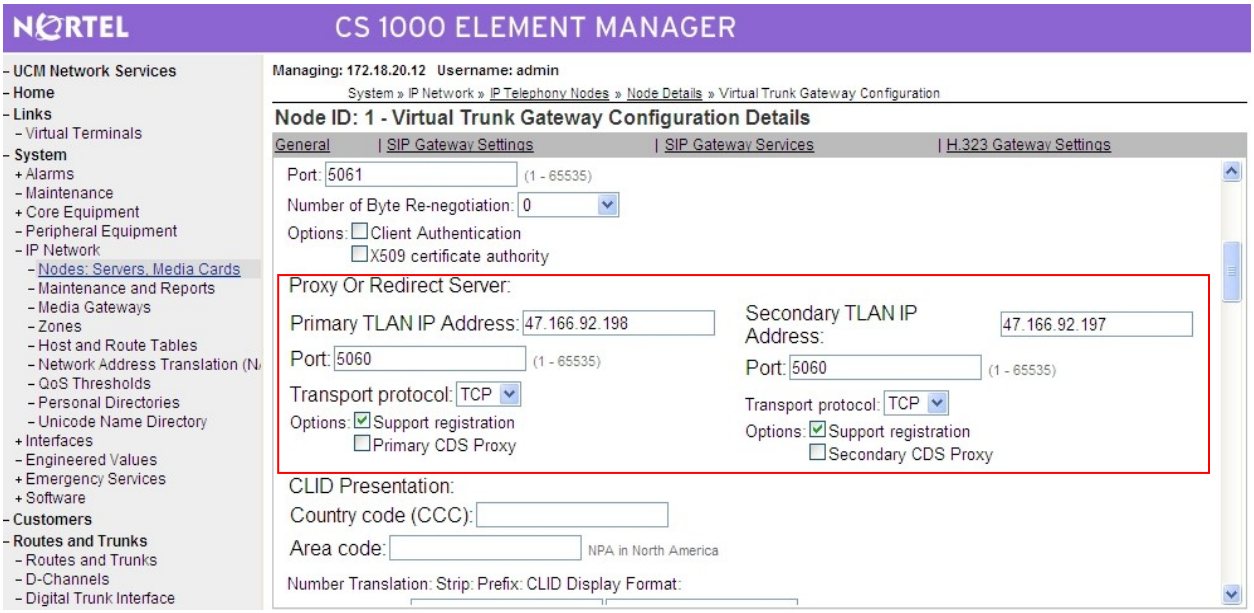
- **Vtrk Gateway Application**, select SIPGw and H.323Gw application
- **SIP Domain name**, must be same value as configured in **Section 5.2**
- **Local SIP Port,** must be set to 5060 as in **Section 5.2**
- **Gateway endpoint name,** must be endpoint name in **Section 5.3**
- **H.323 ID,** must be as in **Section 5.3**



Scroll down the page and enter the **Proxy or Redirect Server** (i.e., the NRS) settings. In the following screenshot:

- **Primary TLAN IP Address,** set to the value used in **Section 5.1**
- **Secondary TLAN IP Address**, set to the value used in **Section 5.1**
- **Port** setting should match the setting in **Section 5.1**
- **Transport protocol** was set to **TCP**
- **Options Support registration** checkbox must be ticked

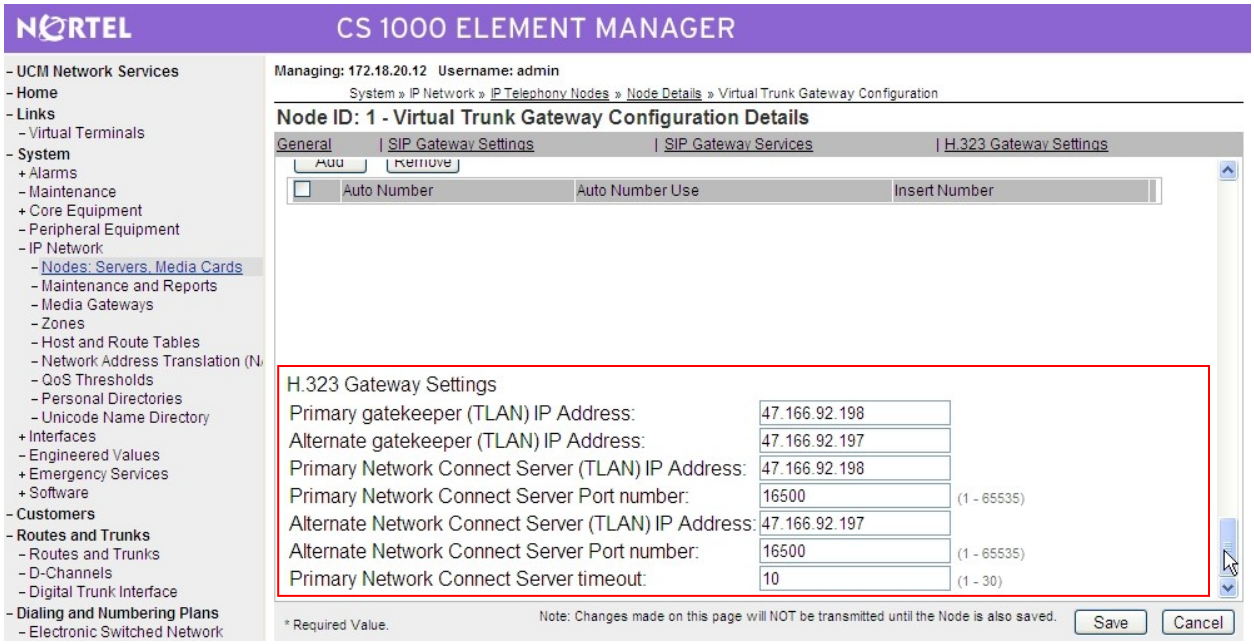
These settings configure the Virtual Trunk Gateway to allow successful registration with the NRS.



Scroll down the page to the **H.323 Gatekeeper Settings**. Use the following settings:

- **Primary gatekeeper (TLAN) IP Address,** same as used in **Section 5.1**
- **Alternate gatekeeper (TLAN) IP Address,** same as used in **Section 5.1**
- **Primary Network Connect Server (TLAN) IP Address,** same as **Section 5.1**
- **Alternate Network Connect Server (TLAN) IP Address,** same as **Section 5.1**
- **Primary Network Connect Server Port number** is set to 16500
- **Alternate Network Connect Server Port number** is also 16500
- **Primary Network Connect Server timeout** is set to **10** seconds

Click on the **Save** button when finished.

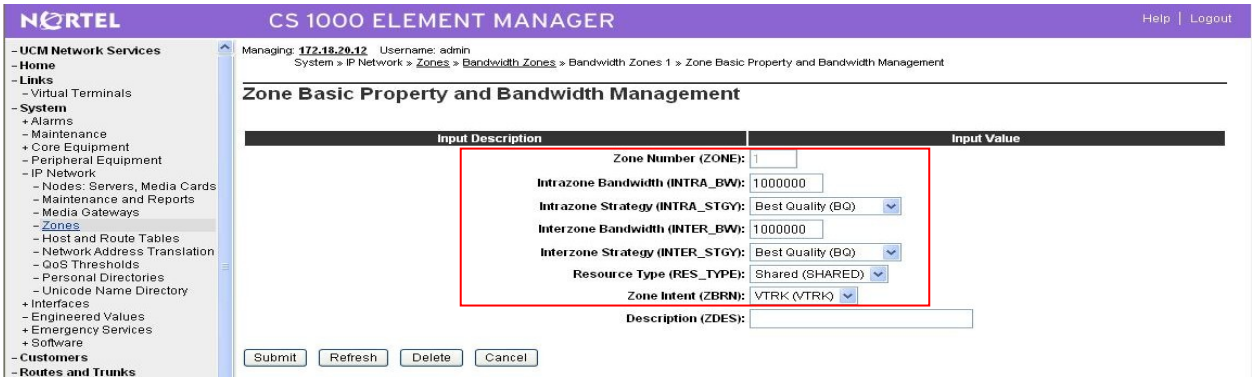


## 6.5. Configure Bandwidth Zones

Bandwidth Zones are used for alternate call routing between IP telephones and for call Bandwidth Management. SIP trunks require a unique zone, and best practice dictates that IP Trunks, IP telephones and Media Gateways are placed in separate zones. Use Element Manager to define bandwidth zones as in the following highlighted example. Select **Zones** from the side menu and navigate to **Zones → Bandwidth Zones** and add new zones as required. The following screenshot shows an example Virtual Trunk zone configuration.

- **Zone Number** must be a unique non zero value.
- **Intrazone Bandwidth** is usually set to the network speed (10, 100 or 1000 M/bS)
- **Intrazone Strategy** sets the preferred codec quality for in zone calls
- **Interzone Bandwidth** is usually set to the network speed (10, 100 or 1000 M/bS)
- **Interzone Strategy** sets the preferred codec quality for zone to zone calls
- **Resource Type** can be set to **Shared**
- **Zone Intent** defines the function; in this case it is used for **VTRK** (Virtual Trunks)

Click on the **Submit** button when completed.



## 6.6. Configure SIP Trunks

Communication Server 1000E virtual trunks will be used for all inbound and outbound calls. Four separate steps are required to configure Communication Server 1000E virtual trunks:-

- Configure a **D-Channel Handler (DCH)**; configure using the Communication Server 1000E system terminal and **overlay 17**.
- Configure a **SIP trunk Route Data Block (RDB)**; configure using the Communication Server 1000E system terminal and **overlay 16**.
- Configure **SIP trunk** members; configure using the Communication Server 1000E system terminal and **overlay 14**.
- Configure a **Route List Block (RLB)**; configure using the Communication Server 1000E system terminal and **overlay 86**.

The following is an example DCH configuration for SIP trunks. Load overlay 17 at the Communication Server 1000E system terminal and enter the following values. The highlighted entries are required for correct SIP trunk operation. Exit overlay 17 when completed.

```
                        Overlay 17 D-Channel Handler Configuration
ADAN     DCH 50
  CTYP DCIP
  DES  VIR_TRK
  USR  ISLD
  ISLM 4000
  SSRC 1800
  OTBF 32
  NASA YES
  IFC  SL1
  CNEG 1
  RLS  ID  5
  RCAP ND2
  MBGA NO
  H323
    OVLR NO
    OVLS NO
```

Next, configure the SIP trunk Route Data Block (RDB) using the Communication Server 1000E system terminal and overlay 16. Load **overlay 16**, enter **RDB** at the prompt, press return and commence configuration. The value for **DCH** is the same as previously entered in **overlay 17**. The value for **NODE** should match the node value in **Section 6.2**. The value for **ZONE** should match that used in **Section 6.5**. The remaining highlighted values are important for correct SIP trunk operation.

```
          Overlay 16 RDB
TYPE: rdbCUST 00
ROUT 100
TYPE RDB
CUST 00
ROUT 100
DES  VIR_TRK
TKTP TIE
NPID_TBL_NUM   0
ESN  NO
RPA  NO
CNVT NO
SAT  NO
RCLS EXT
VTRK YES
ZONE 1
PCID SIP
CRID NO
NODE 1
DTRK NO
ISDN YES
    MODE ISLD
    DCH  50
    IFC  SL1
    PNI  00001
    NCNA YES
    NCRD YES
    TRO  NO
    FALT NO
    CTYP UKWN
    INAC NO
    ISAR NO
    DAPC NO
MBXR NO
MBXOT NPA
MBXT 0
PTYP ATT
CNDP UKWN
AUTO NO
DNIS NO
DCDR NO
ICOG IAO
SRCH LIN
TRMB YES
STEP
ACOD 130
TCPP NO
PII NO
AUXP NO
TARG
CLEN 1
BILN NO
OABS
INST
IDC  NO
DCNO 10
NDNO 10 *
DEXT NO
DNAM NO
SIGO STD
STYP SDAT
MFC  NO
ICIS YES
OGIS YES
TIMR ICF  1920
     OGF  1920
     EOD  13952
     LCT  256
     DSI  34944
     NRD  10112
     DDL  70
     ODT  4096
     RGV  640
     GTO  896
     GTI  896
     SFB  3
     PRPS  800
     NBS  2048
     NBL  4096
     IENB  5
     TFD  0
     VSS  0
     VGD  6
     EESD  1024
SST  5 0
DTD  NO
SCDT NO
2 DT NO
NEDC ORG
FEDC ORG
CPDC NO
DLTN NO
HOLD 02 02 40
SEIZ 02 02
SVFL 02 02
DRNG NO
CDR  NO
NATL YES
SSL
CFWR NO
IDOP NO
VRAT NO
MUS  YES
MRT  21
PANS YES
RACD NO
MANO NO
FRL  0 0
FRL  1 0
FRL  2 0
FRL  3 0
FRL  4 0
FRL  5 0
FRL  6 0
FRL  7 0
OHQ  NO
OHQT 00
CBQ  NO
AUTH NO
TTBL 0
ATAN NO
OHTD NO
PLEV 2
OPR  NO
ALRM NO
ART  0
PECL NO
DCTI 0
TIDY 1600 100
ATRR NO
TRRL NO
SGRP 0
ARDN NO
CTBL 0
AACR NO
```

Next, configure virtual trunk members using the Communication Server 1000E system terminal and **overlay 14**. Configure sufficient trunk members to carry expected incoming and outgoing call levels. The following example shows a single SIP trunk member configuration. Load overlay 14 at the system terminal and type **new X**, where X is the required number of trunks. Continue entering data until the overlay exits. The **RTMB** value is a combination of the **ROUT** value entered in the previous step and the first trunk member (usually 1). The remaining highlighted values are important for correct SIP trunk operation.

```
                              Overlay 14 Trunk Member Configuration
TN   160 0 0 0 DATE PAGE DES  VIR_TRK
TN   160 0 00 00  VIRTUAL
TYPE IPTI
CDEN 8D
CUST 0
XTRK VTRK
ZONE 00253
TIMP 600
BIMP 600
AUTO_BIMP NO
NMUS NO
TRK  ANLG
NCOS 0
RTMB 100 1
CHID 1
TGAR 1
STRI/STRO WNK WNK
SUPN YES
AST  NO
IAPG 0
CLS  TLD DTN CND ECD WTA LPR APN THFD XREP SPCD MSBT
     P10 NTC
TKID
AACR NO
```

Configure a **Route List Block (RLB)** in **overlay 86**. Load overlay 86 at the system terminal and type **new**. The following example shows the values used. The value for **ROUT** is the same as previously entered in overlay 16. The **RLI** value is unique to each RLB.

```
                  Overlay 86 RLB
CUST 0FEAT rlbRLI  24
ELC  NO
ENTR 0
LTER NO
ROUT 100
TOD  0 ON  1 ON  2 ON  3 ON
     4 ON  5 ON  6 ON  7 ON
VNS  NO
SCNV NO
CNV  NO
EXP  NO
FRL  0
DMI  0
CTBL 0
ISDM 0

FCI  0
FSNI 0
BNE  NO
DORG NO
SBOC NRR
PROU 1
IDBB DBD
IOHQ NO
OHQ  NO
CBQ  NO

ISET 0
NALT 5
MFRL 0
OVLL 0
```

Next, configure Special Prefix Number(s) (SPN) which users will dial to reach PSTN numbers. Use the Communication Server 1000E system terminal and overlay 90. The following are some example SPN entries used. The highlighted **RLI** value previously configured in overlay 86 is used as the Route List Index (RLI); this is the default route to the NRS.

| | | | |
|---|---|---|---|
| SPN 999 | SPN 90 | SPN 2 | SPN 15 |
| FLEN 3 | FLEN 7 | FLEN 7 | FLEN 3 |
| ITOH NO | ITOH NO | ITOH NO | ITOH NO |
| CLTP NONE | CLTP NONE | CLTP NONE | CLTP NONE |
| **RLI 24** | **RLI 24** | **RLI 24** | **RLI 24** |
| SDRR NONE | SDRR NONE | SDRR NONE | SDRR NONE |
| ITEI NONE | ITEI NONE | ITEI NONE | ITEI NONE |

## 6.7. Configure Analog, Digital, Attendant and IP Telephones

A variety of telephone types were used during the testing, the following is the configuration for the Avaya 1140e Unistim IP telephone. Load **overlay 20** at the system terminal and enter the following values. A unique four digit number is entered for the **KEY 00** and **KEY 01** value.

**Overlay 20 IP Telephone configuration**

```
DES  1140
TN   096 0 01 16  VIRTUAL
TYPE 1140
CDEN 8D
CTYP XDLC
CUST 0
NUID
NHTN
CFG_ZONE 2
CUR_ZONE 2
ERL  0
ECL  0
FDN  0
TGAR 0
LDN  NO
NCOS 0
SGRP 0
RNPG 1
SCI  0
SSU
LNRS 16
XLST
SCPW
SFLT NO
CAC_MFC 0
CLS  UNR FBA WTA LPR PUA MTD FNA HTA TDD HFA CRPD
     MWA LMPN RMMD SMWD AAD IMD XHD IRD NID OLD VCE DRG1
     POD SLKD CCSD SWD LNA CNDA
     CFTD SFD MRD DDV CNID CDCA MSID DAPA BFED RCBD
     ICDA CDMD LLCN MCTD CLBD AUTR
     GPUD DPUD DNDA CFXA ARHD FITD CLTD ASCD
     CPFA CPTA ABDD CFHD FICD NAID BUZZ AGRD MOAD
     UDI RCC HBTA AHD IPND DDGA NAMA MIND PRSD NRWD NRCD NROD
     DRDD EXR0
     USMD USRD ULAD CCBD RTDD RBDD RBHD PGND OCBD FLXD FTTC DNDY DNO3 MCBN
     FDSD NOVD VOLA VOUD CDMR PRED RECA MCDD T87D SBMD KEM3 MSNV FRA  PKCH MUTA MWTD

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```

```
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DVLD CROD CROD
CPND_LANG ENG
RCO  0
HUNT 0
LHK  0
PLEV 02
PUID
DANI NO
AST  00
IAPG 1
AACS NO
ITNA NO
DGRP
MLWU_LANG 0
MLNG ENG
DNDR 0
KEY  00 MCR 5200 0     MARP
        CPND
          CPND_LANG ROMAN
            NAME IP1140
            XPLN 10
            DISPLAY_FMT FIRST,LAST
     01 MCR 5200 0
        CPND
          CPND_LANG ROMAN
            NAME IP1140
            XPLN 10
            DISPLAY_FMT FIRST,LAST
     02
     03 BSY
     04 DSP
     05
     06
     07
     08
     09
     10
     11
     12
     13
     14
     15
     16
     17 TRN
     18 AO6
     19 CFW 16
     20 RGA
     21 PRK
     22 RNP
     23
     24 PRS
     25 CHG
     26 CPN
```

Digital telephones are configured using the **overlay 20**; the following is a sample 3904 digital set configuration. Again, a unique number is entered for the **KEY 00** and **KEY 01** value.

**Overlay 20 – Digital Set configuration**

```
TYPE: 3904
DES  3904
TN   000 0 09 08  VIRTUAL
TYPE 3904
CDEN 8D
CTYP XDLC
CUST 0
MRT
ERL  0
FDN  0
TGAR 0
LDN  NO
NCOS 0
SGRP 0
RNPG 1
SCI  0
SSU
LNRS 16
XLST
SCPW
SFLT NO
CAC_MFC 0
CLS  UNR FBD WTA LPR PUA MTD FND HTD TDD HFA GRLD CRPA STSD
     MWA LMPN RMMD SMWD AAD IMD XHD IRD NID OLD VCE DRG1
     POD SLKD CCSD SWD LNA CNDA
     CFTD SFD MRD DDV CNID CDCA MSID DAPA BFED RCBD
     ICDA CDMA LLCN MCTD CLBD AUTU
     GPUD DPUD DNDA CFXA ARHD FITD CNTD CLTD ASCD
     CPFA CPTA ABDA CFHD FICD NAID BUZZ AGRD MOAD
     UDI RCC HBTD AHA IPND DDGA NAMA MIND PRSD NRWD NRCD NROD
     DRDD EXR0
     USMD USRD ULAD CCBD RTDD RBDD RBHD PGND OCBD FLXD FTTC DNDY DNO3 MCBN
     FDSD NOVD CDMR PRED RECA MCDD T87D SBMD PKCH CROD CROD
CPND_LANG ENG
RCO  0
HUNT
PLEV 02
PUID
DANI NO
SPID NONE
AST
IAPG 1
AACS
ACQ
ASID
SFNB
SFRB
USFB
CALB
FCTB
ITNA NO
DGRP
PRI  01
MLWU_LANG 0

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```

```
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MLNG ENG
DNDR 0
KEY  00 MCR 5201 0     MARP
        CPND
          CPND_LANG ROMAN
            NAME Digital Set
            XPLN 10
            DISPLAY_FMT FIRST,LAST
     01 MCR 5201 0
        CPND
          CPND_LANG ROMAN
            NAME Digital Set
            XPLN 10
            DISPLAY_FMT FIRST,LAST
     02 DSP
     03 MSB
     04
     05
     06
     07
     08
     09
     10
     11
     12
     13
     14
     15
     16
     17 TRN
     18 AO6
     19 CFW 16
     20 RGA
     21 PRK
     22 RNP
     23
     24 PRS
     25 CHG
     26 CPN
     27 CLT
     28 RLT
     29
     30
     31
```

Analog telephones are also configured using **overlay 20**; the following example shows an analog port configured for Plain Ordinary Telephone Service (POTS) and also configured to allow T.38 Fax transmission. A unique value is entered for **DN**, this is the extension number. **DTN** is required if the telephone uses DTMF dialing.

**Overlay 20 – Analog Telephone Configuration**

```
DES  500
TN   100 0 00 03
TYPE 500
CDEN 4D
CUST 0
MRT

ERL 00000
WRLS NO
DN   5202
AST  NO
IAPG 0
HUNT
TGAR 0
LDN  NO
NCOS 0
SGRP 0
RNPG 0
XLST
SCI  0
SCPW
SFLT NO
CAC_MFC 0
CLS  UNR DTN FBD XFD WTA THFD FND HTD ONS
     LPR XRD AGRD CWD SWD MWD RMMD SMWD LPD XHD SLKD CCSD LND TVD
     CFTD SFD MRD C6D CNID CLBD AUTU
     ICDD CDMD LLCN EHTD MCTD
     GPUD DPUD CFXD ARHD OVDD AGTD CLTD LDTD ASCD SDND
     MBXD CPFA CPTA UDI RCC HBTD IRGD  DDGA NAMA MIND
     NRWD NRCD NROD SPKD CRD PRSD MCRD
     EXR0 SHL SMSD ABDD CFHD DNDY DNO3
     CWND USMD USRD CCBD BNRD OCBD RTDD RBDD RBHD FAXA CNUD CNAD PGND FTTC
     FDSD NOVD CDMR PRED MCDD T87D SBMD PKCH MPTD
PLEV 02
PUID
AACS NO
MLWU_LANG 0
FTR  DCFW 4
```

Attendant Consoles (Avaya 2250) are configured using **overlays 12** and **15**; the following example shows the 2250 configuration used. In overlay 15 (see following table), the Call Waiting queue Update feature (**CWUP**) must be set to **YES**. **CWCL** (Call Waiting Call Limit) is set to appropriate values, as is **CWTM** (Call Waiting Time). Finally, **CWBZ** (Call Waiting Buzz) is set to **NO YES** to provide two second buzz to alert operators to the arrival of a new call.

**Overlay 15 – Attendant Data**

```
ATT_DATA
  OPT ABDD AHA EBIN BIXD BLA BOHD CHDA DNCA DRE
      DNX DRE FACD IC1 ITG IDP XLF IBL
      FKA MCTD NCD CUI MWUD LOD PSD RECA
      REA EHS SLD SIAD THPD ATDA
  ATDN 111
  NCOS 0
  CWUP YES
  CWCL 3 4
  CWTM 0 0
  CWBZ NO YES
  EFLL 0
  MATT NO
  RTIM 35 30 30
  ATIM 0
  AQTT 0
  AODN
  SPVC 00
    SBLF NO
  RTSA RSAX
  SACP SNGL
  ABDN NO
  IRFR NO
  XRFR NO
  ADHT 0
  AFNT 0
  AFBT 0
  IDBZ NO
  PBUZ 02  10
  ICI 00
  ICI 01
  ICI 02
  ICI 03
  ICI 04 DL0
  ICI 05 MTR
  ICI 06 RLL
  ICI 07 IAT
  ICI 08 INT CFB
  ICI 09 CFN MWC
  RICI
```

In **overlay 12**, **QTHM** (Queue Thermometer) value is set to **YES** when entering 2250 configuration data, the **NUL** parameter setting means no ICI key assignments are entered.

```
                        Overlay 12 - Attendant Console Configuration

TYPE: 2250TN   004 0 00 13
TYPE 2250
CDEN 8D
CUST 0
SGRP 0
SETN 004 0 00 14
ANUM 01
IADN
ALPD NO
SSU
ICDR ICDD
ABAN ABDD
CPND CNDA
EBLF BLFA
QTHM   NUL  NUL  NUL  NUL
AADN
DNDI DNDA
DAPC DAPA
LANG 03
KEY  00 BKI
KEY  01 BIN
KEY  02 DPS
KEY  03 DPD
KEY  04 SSC 0010
KEY  05 RFW
KEY  06 MTR
KEY  07 PRK
KEY  08 MCK
KEY  09 MIK
KEY  10
KEY  11
KEY  12
KEY  13
KEY  14
KEY  15
KEY  16
KEY  17
KEY  18
KEY  19
```

## 6.8. Configure Call Detail Recording Serial Port

A serial port (TTY) must be configured on the Communication Server 1000E which Atiras can use to retrieve Call Detail Recording data. Use **overlay 17** to configure a new TTY port as in the following example. **User** must be **CTY.**

```
                              Overlay 17 - CDR TTY Configuration
ADAN     TTY 6
  CTYP MGC
  IPMG 4 0
  DNUM 6
  PORT 1
  DES  CDR_TTY
  BPS  9600
  BITL 8
  STOP 1
  PARY NONE
  FLOW NO
  USER CTY
  TTYLOG       0
  BANR YES
```

This completes the configuration required for the Communication Server 1000E. Repeat the procedures in **Section 6.2** through **Section 6.8** for subsequent Communication Server 1000E systems.

# 7. Configure Atiras System Management Platform

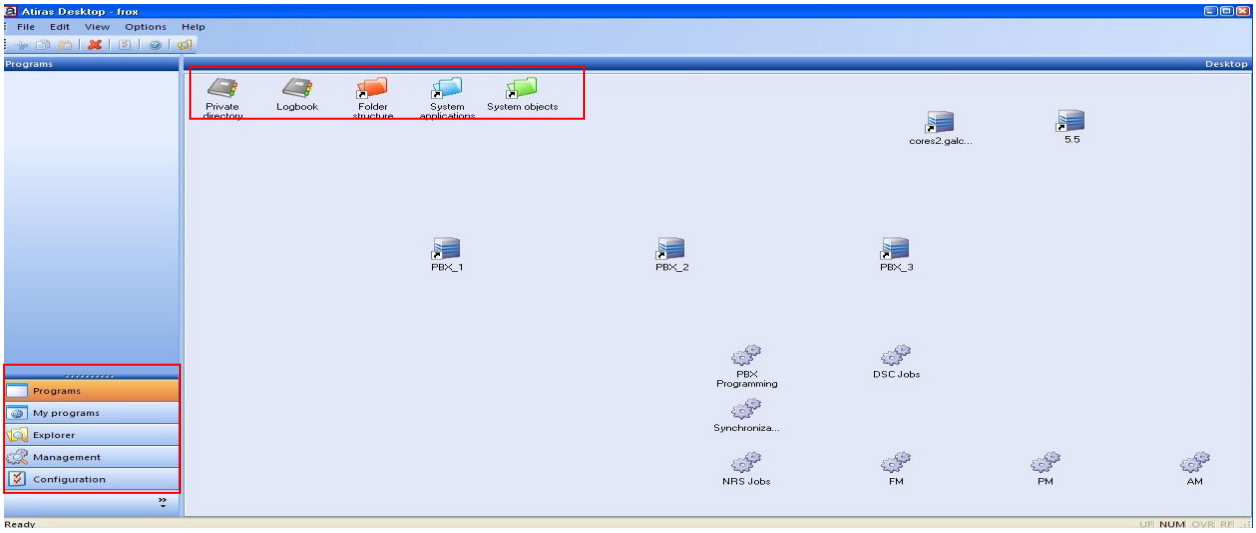
Atiras R7.0 is a client/server system management solution; the client user graphical interface is similar to the desktop environment used in many Operating Systems. Managed systems and elements are presented as objects that may be dragged and dropped to effect changes. The server software must be installed on a Windows server (2003, 2008, XP Professional and Vista are supported). The client only supports Windows Operating Systems, but a lightweight web based version is available. Please refer to the Atiras installation guide for further details, see item **[7]** in **Section 10** of this document. For the purposes of these Application Notes, it is assumed Atiras R7.0 has been installed on a server connected to the Communication Server 1000E T-LAN and the client software has been installed on a Laptop which has the ability to connect remotely to the Communication Server 1000E T-LAN. This section describes the steps necessary to configure Atiras R7.0 to operate with Communication Server 1000E. The following procedures are discussed:

- Atiras design philosophy and data structure organization
- Configure the Communication Server 1000E elements as managed objects.
- Configure the Atiras Attendant Console
- Configure the Lantronix terminal server
- Configure the Communication Server 1000E NRS

## 7.1. Atiras design philosophy and data structure organization

Launch the Atiras 7.0 client by double clicking on the desktop shortcut or by selecting the application from **Start → Programs → Atiras → Atiras Desktop**. Login with a valid user id and password (not shown). The following screenshot shows the Atiras client desktop.

The area on the left (highlighted) contains management and configuration wizards which can be used to generate reports, manage background jobs, monitor system alarms and events and access to system elements using terminal emulators. The main desktop area contains icons which represent Atiras objects. There are four object classes; System Objects (green), System Applications (blue), Folders (red) and User Folders (yellow). Examples of System Objects are telephones, users and Communication Server 1000E systems. Examples of System applications are alarm displays, call detail records and traffic data. Folders are used to group system applications and system objects into a common group or a hierarchical display. User folders contain private user data. Objects can be dragged and dropped into folders or placed on the desktop as shortcuts. The primary focus of these application notes is with System applications and objects as related to Communication Server 1000E configuration and operation.




## 7.2. Configure Lantronix Terminal Server

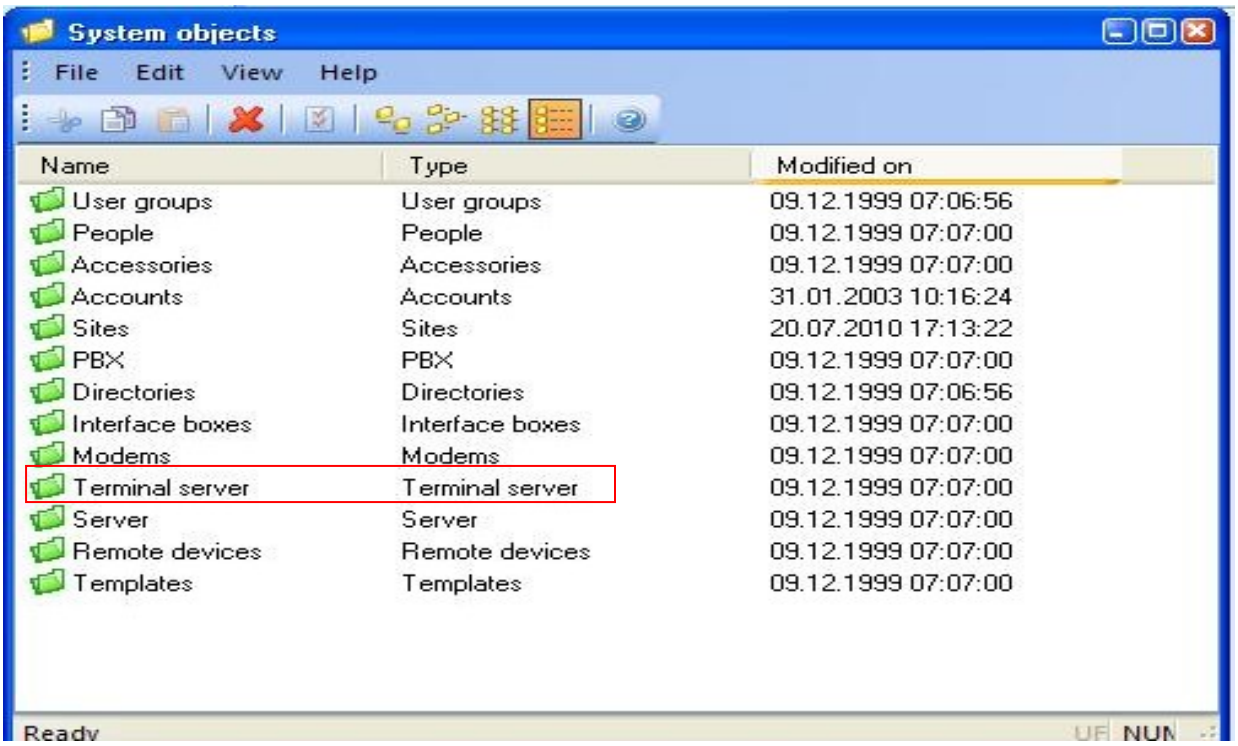
Atiras uses a serial RS232 connection to retrieve Communication Server 1000E Call Detail Records and traffic data. In situations where Atiras is managing remotely located Communication Server 1000E's, a terminal server is connected at the remote Communication Server 1000E and Atiras connects to the terminal server to access the remote system. The Lantronix terminal server must be configured before Atiras attempts to use it; the following procedure shows the necessary steps. Connect a serial cable to one of the Lantronix serial ports and connect a terminal or a PC running a terminal emulator with the com port settings 9600 baud, 8 bits, no parity, 1 stop bit and no flow control.

- Power off the Lantronix terminal server.
- While holding down the **TEST** button, power on the Lantronix terminal server
- Wait 20 seconds (still holding the TEST button)
- Release the **TEST** button, the Lantronix resets
- Hold down the terminal or terminal emulator **!** key
- Type **xyz** within five seconds to gain access to the device command line

The Lantronix is now reset to factory defaults and powers up in auto configuration mode. Configure the device with the following settings:

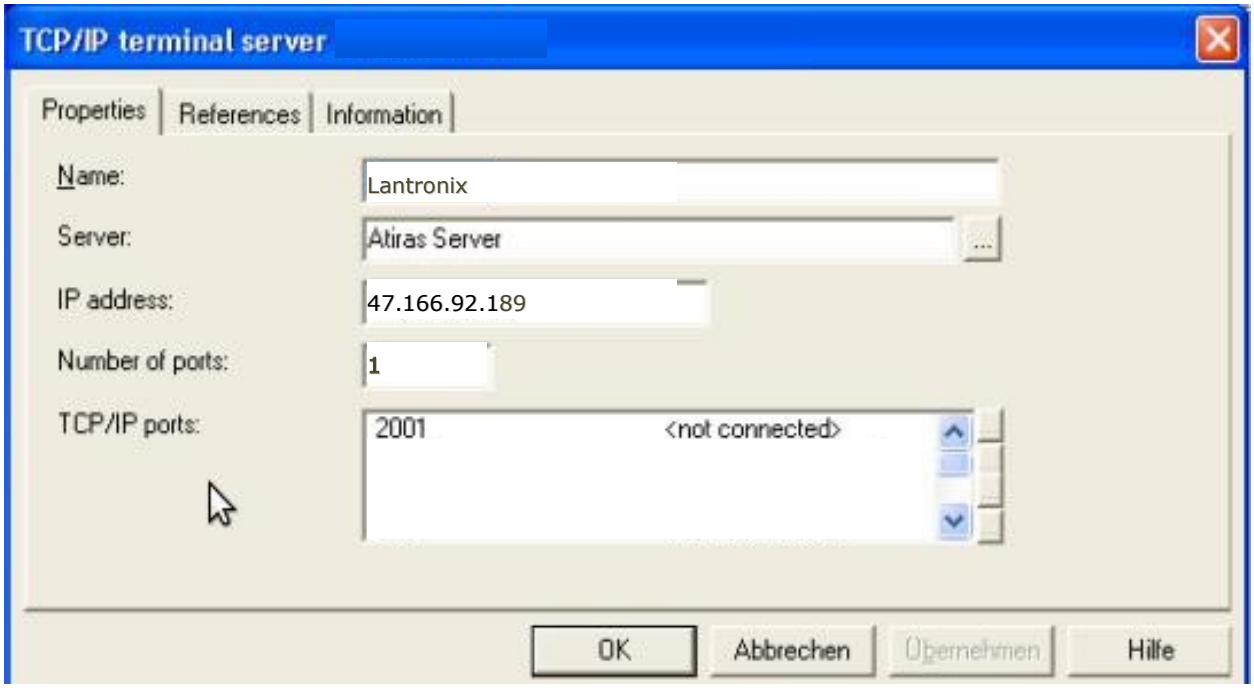
- **IP Address**, the address to be used for the Lantronix (e.g. 47.166.92.189)
- **Network Mask**, corresponding subnet mask (e.g. 255.255.255.224)
- **Default Gateway**, gateway ip address (e.g. 47.166.92.222)
- **Hostname**, a name that the Lantronix will be known as (e.g. lantronix)
- **Access Port**, the port number that will be used to access the Lantronix (e.g. 2001)

Remove the terminal or terminal emulator and connect the serial cable to the Communication Server 1000E TTY port configured in **Section 6.8**. Next, configure Atiras to use the Lantronix to connect to the Communication Server 1000E. Double click on the **System Objects** folder, this displays the contents as a list of objects; see the next screenshot for details. Double click on the **Terminal Server folder**.



A new Terminal Server object window opens (not shown), click on the **File** menu entry, then **New**. A new TCP/IP terminal server property window opens (see the following screenshot). The following configuration sets up Atiras to use the Lantronix terminal server to access the Communication Server 1000E serial port previously configured in **Section 6.8**:

- **Name** can be any descriptive test
- For **Server**, select the **Atiras Server** from the list
- **IP address** should be the Lantronix IP address, as configured previously
- **Number of ports** should be set to **1**
- **TCP/IP ports** should be set to **2001**

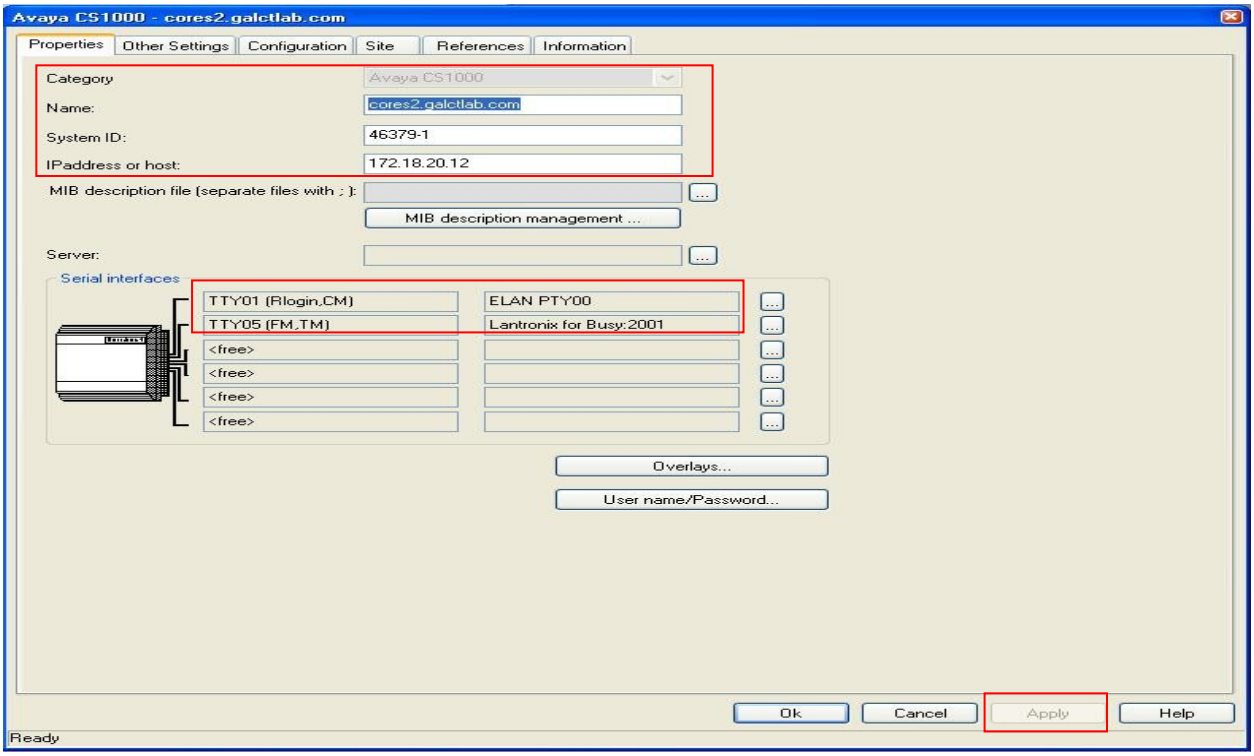



## 7.3. Configure Avaya Communication Server 1000E elements

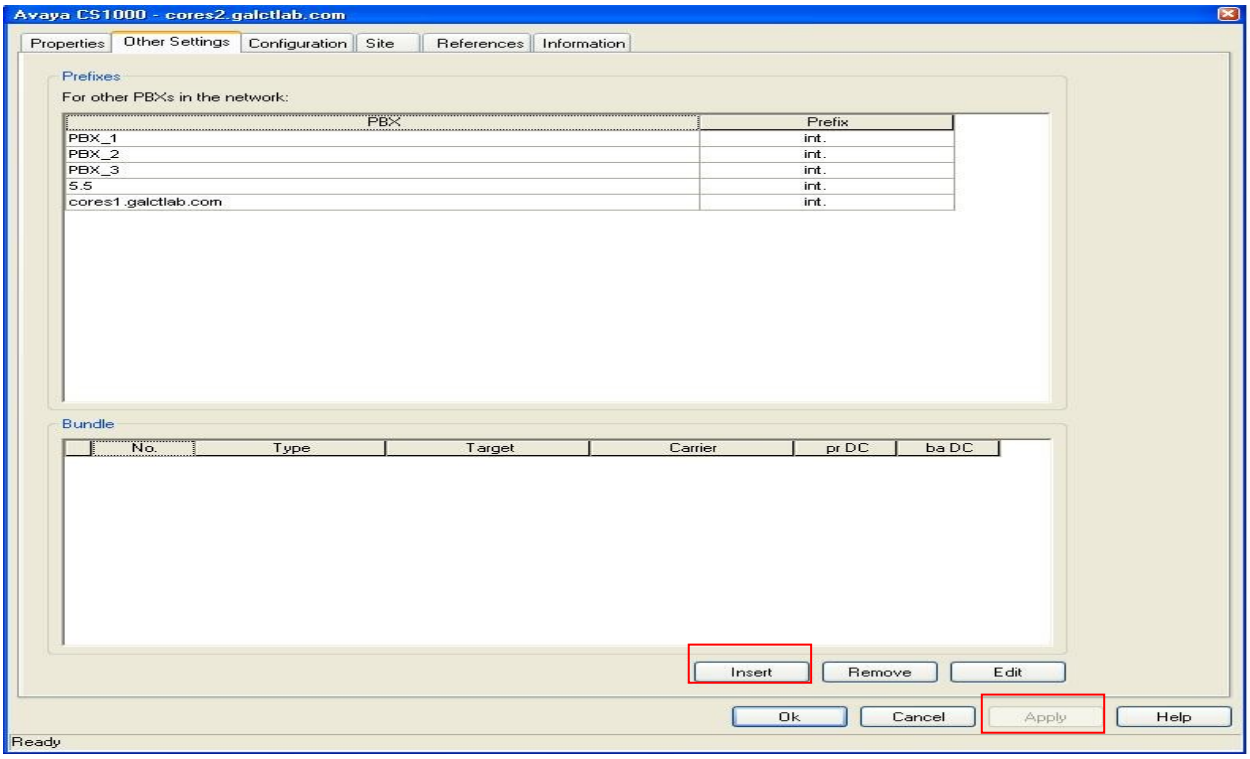
Double clicking on the **System Objects** folder displays the contents as an object list; see the previous **System Objects** screenshot for details. Double click on the **PBX folder**; this opens the PBX objects explorer. The following screenshot shows some example PBX objects.

To configure a new **PBX object**, click on the **File** menu and select **New** (not shown), a PBX object property sheet opens with six tabs. The first tab contains the Communication Server 1000E system properties. For a new PBX object:

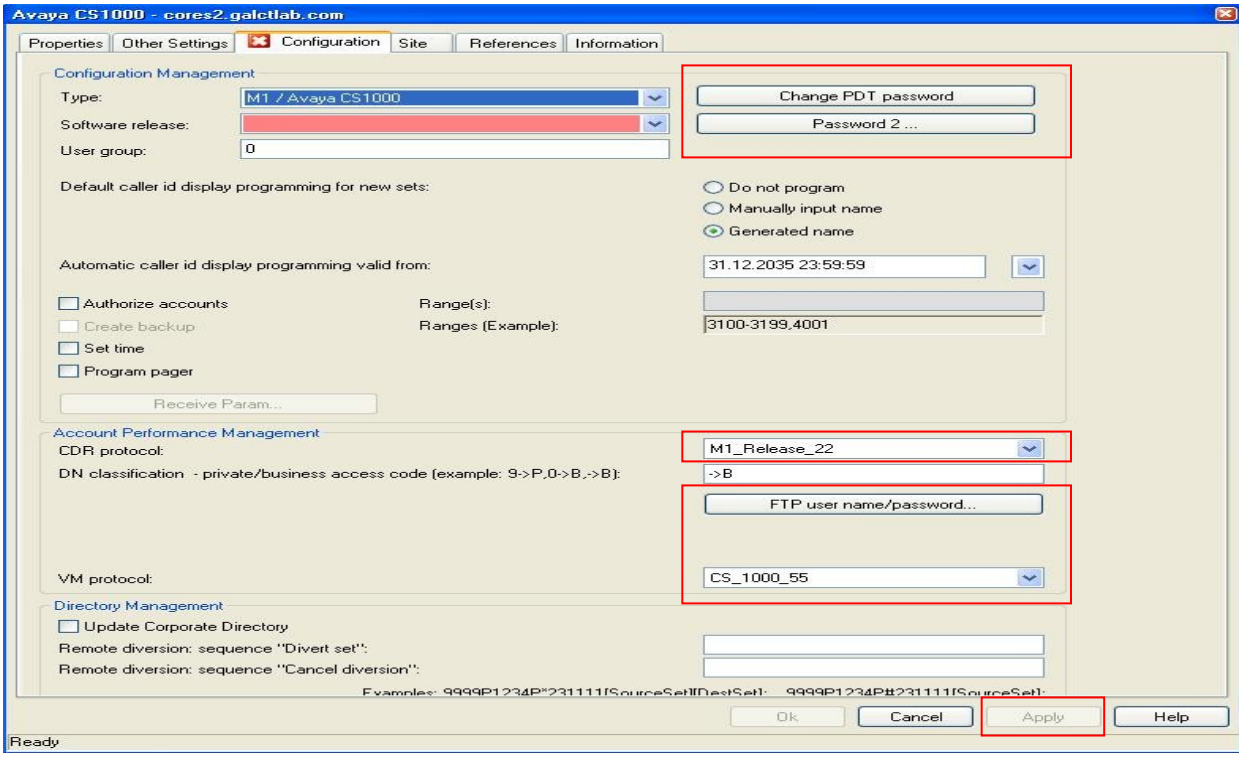
- **Category** is **Avaya CS1000**
- **Name** is a descriptive label for the PBX object
- **System ID** is the Communications Server 1000E Tape ID (TID)
- **IP address or host** is the call server IP address or FQDN
- **TTY01 (Rlogin, CM),** select **ELAN PTY00** from the list
- **TTY05 (FM, TM)**, select **Lantronix for Busy:2001** from the list



Click on the **Apply** button (highlighted) and then on the **Other Settings** tab. This allows the new PBX object to be added to an existing network of PBX objects if required. This step is important for correct user management and facilitates drag and drop management of telephones between grouped Communication Server 1000E systems. In the following screenshot, click on the **Insert** button and then on the **Apply** button to add the new PBX object into the existing group. When finished, click on the **Configuration** tab.

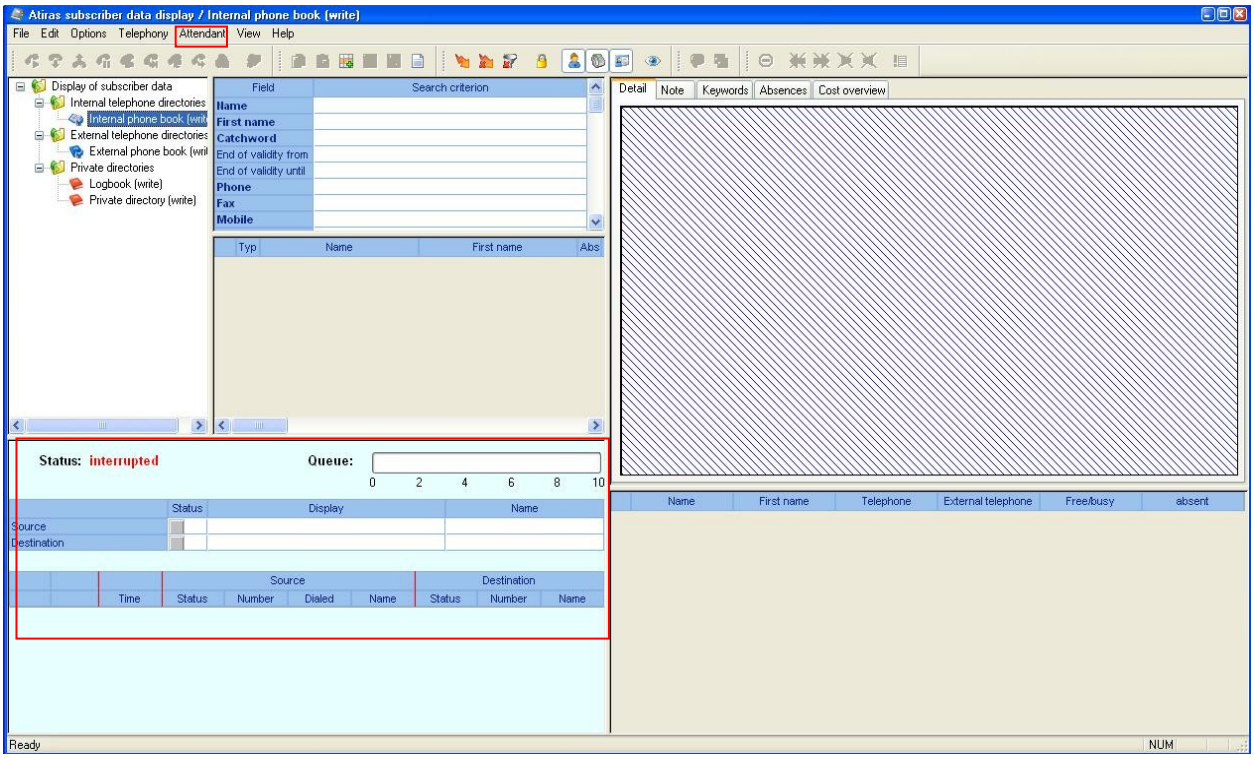


The Configuration tab sets up Communication Server 1000E access for Atiras. If the system PDT password has been changed, click on the **Change PDT Password** button and set it to the new value. Click on the **Password** button to set the level 2 password which Atiras uses to automatically logon to the Communication Server 1000E overlays. For **CDR Protocol**, select **M1_Release_22** from the list. The **FTP user name/password** button sets up Atiras to retrieve files from the Communication Server 1000E call server, click on the button and enter a valid user name and password combination with sufficient rights to retrieve system files. **VM Protocol** is set to **CS_1000_55**. Click on the **Apply** button when finished.



## 7.4. Configure the Atiras Attendant Console

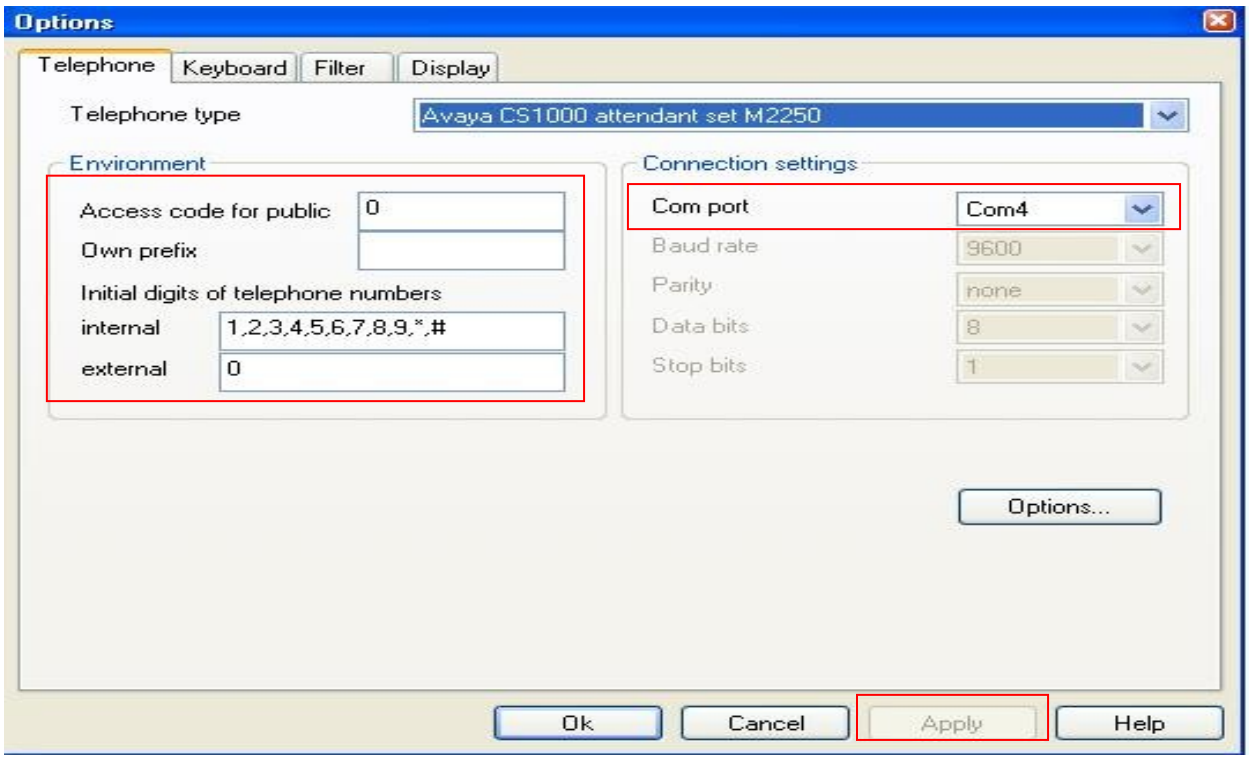
Atiras 7.0 contains an attendant answering position which remotely controls an Avaya 2250 Attendant Console. The Atiras attendant console must be configured correctly to communicate with the Avaya 2250 Attendant Console, the following screenshots show the configuration steps. It is assumed the Avaya 2250 Attendant console is configured as in **Section 6.7** and is operational and in the idle state. Click on the **Programs** entry in the left hand side menu of the Atiras desktop (see screenshot in **Section 7.1**).In the resulting list (not shown), click on the **Display of Subscriber Data** icon. The following screenshot shows the subscriber data window. The Atiras attendant console is located in the bottom left side of the window (highlighted).



Click on the **Attendant** entry in the upper menu bar, the following configuration window opens.

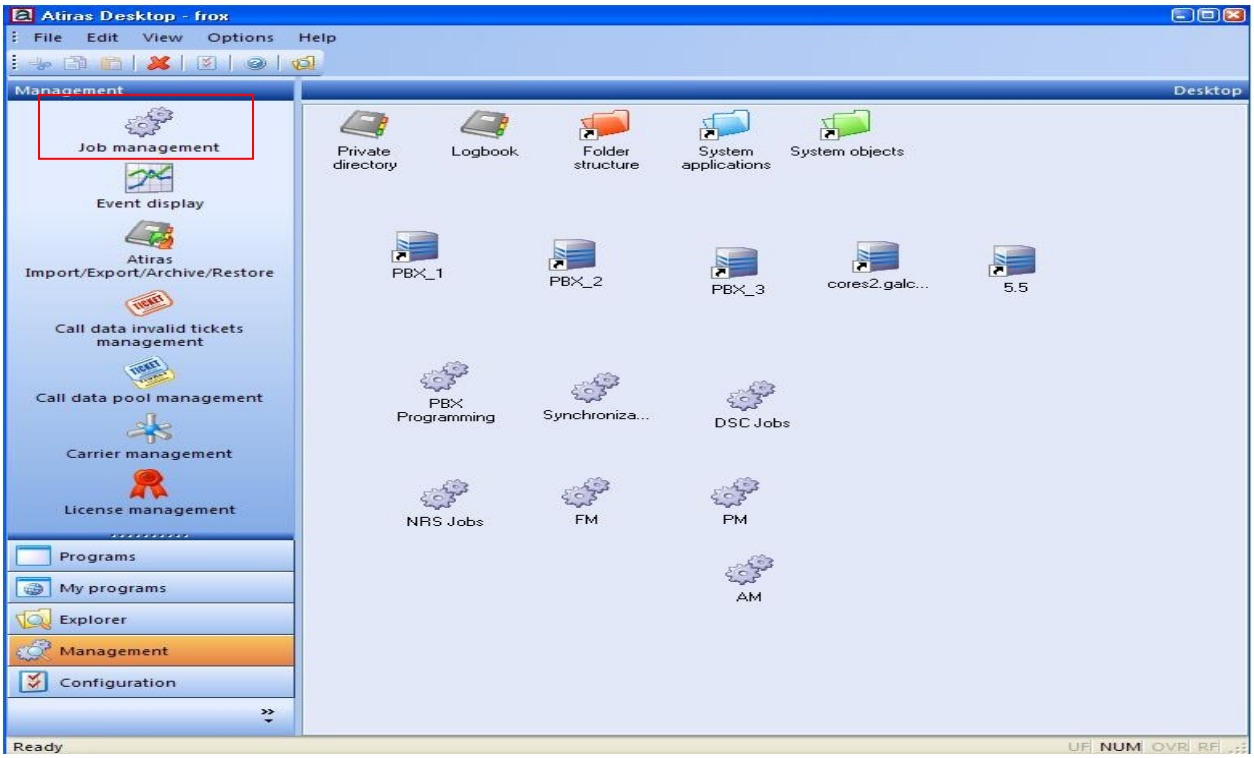
- For the **Telephone Type**, select **Avaya CS1000 attendant set M2250** from the drop down list.
- In the **Environment** section, configure the access codes for internal and external dialing, ensure these match the values used on the Communication Server 1000E.
- In the **Connection Settings** area, choose a free serial communications port (com port) on the Atiras server, the rest of the settings can remain at default.

Click on the **Apply** button when completed. Finally, ensure a suitable serial control cable (RS232) is connected between the Atiras server and the Avaya 2250 Attendant Console.

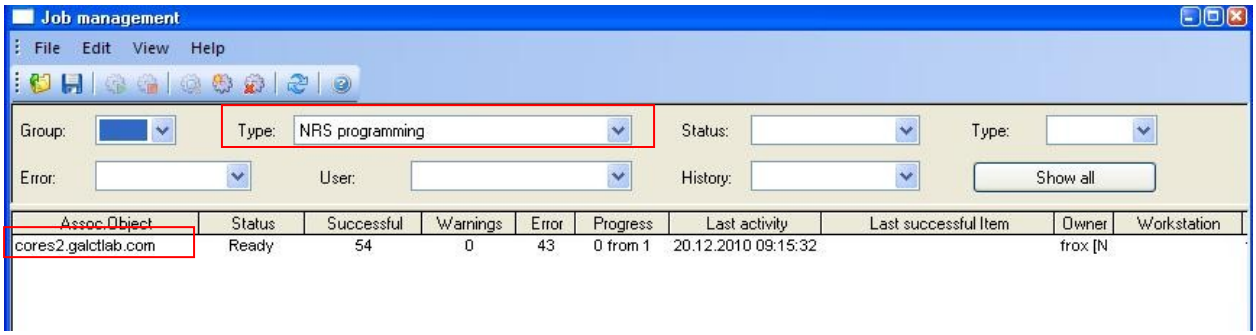


## 7.5. Configure the Avaya Communication Server 1000E NRS

Atiras communicates directly with the NRS using Web Services. This requires the NRS configuration data be entered into the Atiras NRS **Job Management** property page. On the main Atiras desktop, click on the **Management** entry on the left hand side menu (see following screenshot), then on the **Job Management** entry.



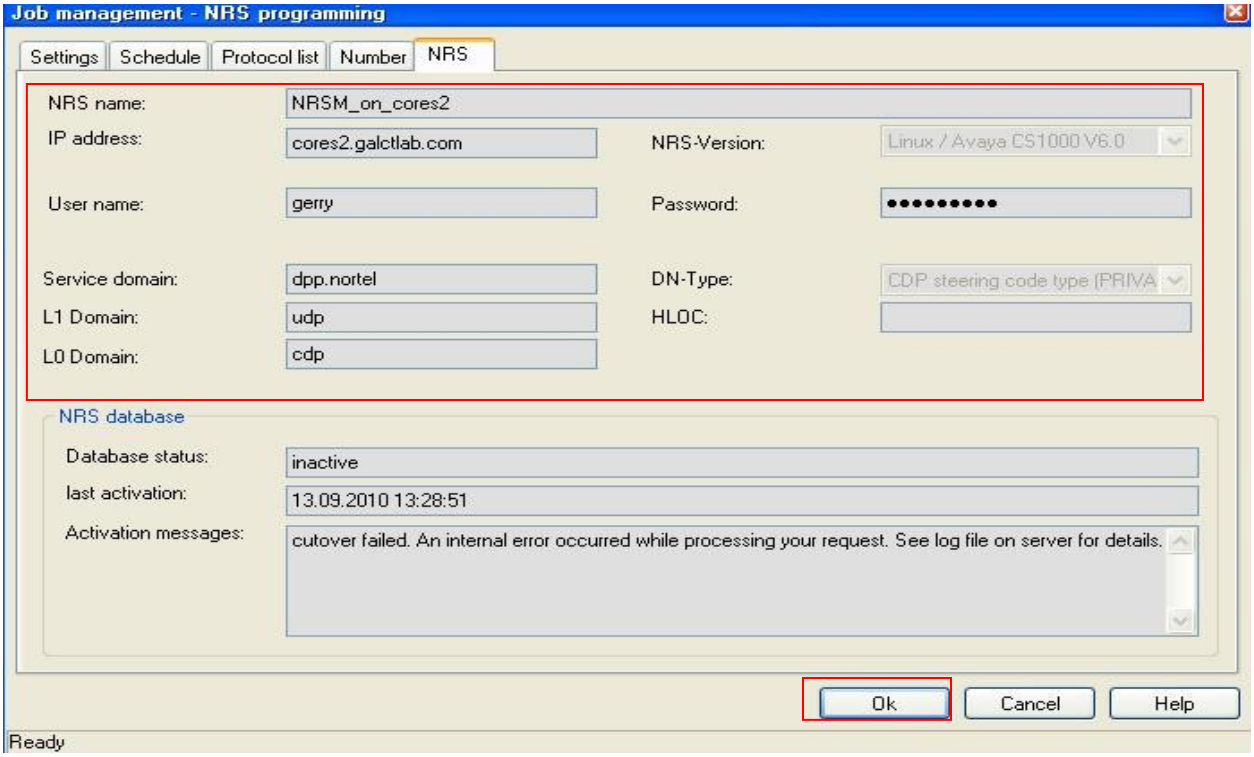

A new **Job Management** window opens with a list of all Atiras background tasks. Use the **Type** drop down list to select **NRS programming** and the listings will reduce to just the NRS jobs (see next screenshot). Double click on the **cores2.galctlab.com** object.



The **Job Management – NRS programming** windows opens to allow inputting of NRS configuration details.

- For **NRS name:** use the same data as input in **Section 5.1** (**NRSM_on_cores2**)
- **IP address:** can be the FQDN of the NRS (**cores2.galctlab.com**)
- **User name:** must be a valid UCM user with sufficient authorization to access the NRS
- **Password:** is the credential associated with the applied User name
- **Service domain:** is the same as entered in **Section 5.2**
- **L1 domain:** is the same as entered in **Section 5.2**
- **L0 domain:** is the same as entered in **Section 5.2**

When finished, click on the **OK** button.

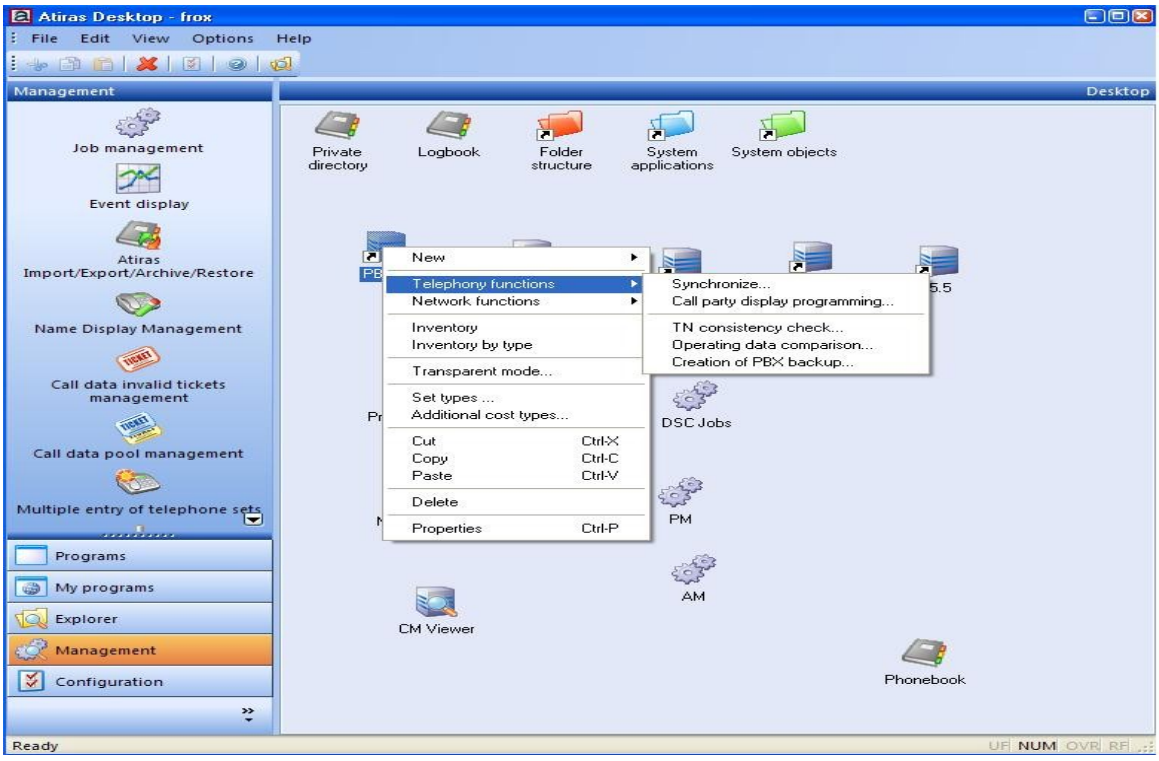



This completes Atiras R7.0 setup.

# 8. Verification Steps

To confirm successful Atiras configuration with the Communication Server 1000E perform the following two actions:

- Right click on a PBX object on the Atiras desktop and then select **Telephony functions → Synchronize...** (see the following screenshot). Ensure the data is collected




- Click on the **Programs** entry in the left hand side menu of the Atiras desktop (see screenshot in **Section 7.1**).In the resulting list (not shown), click on the **Display of Subscriber Data** icon. The Atiras attendant will start. Place a call to the 2250 attendant console, the Atiras attendant status display should change from idle to busy.

# 9. Conclusion

Atiras is a comprehensive telemanagement system that automates Avaya Communication Server 1000E day to day operational tasks and provides excellent data and report generation facilities. Intended for larger corporations or customers with significant installations, Atiras R7.0 simplifies the running of complex networks of Avaya Communication Server 1000E systems by providing a visual interface that emulates the simplicity of a Windows desktop. Operations such as adding a phone, moving a user from one location to another are handled by background tasks which eliminate the need to manually delete and input data or use complex scripting.

# 10. Additional References

The following documents and external references may be helpful in understanding operation of particular Communication Server 1000E features and may provide more detailed information:

1 Information on how to install and configure Linux and Telephony applications:- Avaya Communication Server 1000E – Documentation Library – Document NN43001-315 (*Linux Platform Base and Applications Installation and Commissioning)*

2 Installation procedures and guidelines for CS1000E system installers:- Avaya Communication Server 1000E – Documentation Library – Document NN43041-310 *(Communication Server 1000E Installation and Commissioning)*.

3 System Management platform (UCM) provides security, software deployment and other services to CS1000E elements:- Avaya *Communication Server 1000E – Documentation Library – Docum*ent NN43001-116 *(Unified Communications Management Common Services Fundamentals)*.

4 For information on configuring and operating SIP Line services on the CS1000E, see the following document:- Avaya Communication Server 1000E – Documentation Library – Document NN43001-508 (*Configuration SIP Line Fundamentals).*

5 A complete and detailed account of all CS1000E telephony features and services can be found in the following document :- Avaya Communication Server 1000E – Documentation Library – Document NN43001-106-B1 through NN43001-106-B6 (*Communication Server 1000 Features and Services Fundamentals - Book 1 through Book 6).*

6 Atiras User Manual, 0201-1001-EN issue 6.1 11/2008. A guide for Atiras users and system administrators.

7 Atiras Technical Reference Manual, 0201-1003-E issue 6.1 11/2008. Technical manual for advanced Atiras users and system installers.

# Linux Base software and installed Applications

```
Product Release: 6.00.18.00
Base Applications
   base                          6.00.18
   NTAFS                         6.00.18
   sm                            6.00.18
   Jboss-Quantum                 6.00.18
   lhmonitor                     6.00.18
   kcv                           6.00.18
   dfoTools                      6.00.18
   cppmUtil                      6.00.18
   oam-logging                   6.00.18
   dmWeb                         6.00.18.62
   baseWeb                       6.00.18
   ipsec                         6.00.18
   Snmp-Daemon-TrapLib           6.00.18
   tap                           6.00.18
   EmCentralLogic                6.00.18
Application configuration: CS+SS+NRS+EM
Packages:
CS+SS+NRS+EM
Configuration version:     6.00.18
 cs                             6.00.R
   dbcom                         6.00.18.65
   cslogin                       6.00.18
   sigServerShare                6.00.18.62
   csv                           6.00.18.65
   tps                           6.00.18.65
   vtrk                          6.00.18.65
   pd                            6.00.18.62
   sps                           6.00.18.63
   ncs                           6.00.18
   gk                            6.00.18.65
   nrsm                          6.00.18
   nrsmWebService                6.00.18
   managedElementWebService      6.00.18
   emWeb_6-0                     6.00.18
   csmWeb                        6.00.18
   bcc_6-0                       6.00.18
   ftrpkg                        6.00.18
   cs1000WebService_6-0          6.00.18
```

# Installed Linux Base and Application Patches and Service Updates

```
Product Release: 6.00.18.00
In system patches: 4
PATCH#  NAME       RPM
2       p29703_1   nortel-cs1000-shared-ssSubagent-6.00.18-00.i386
3       p29407_1   nortel-cs1000-cs-6.00.R.100-00.i386
15      p28774_1   nortel-cs1000-Jboss-Quantum-6.00.18.00-00.i386
16      p28797_1   nortel-cs1000-Jboss-Quantum-6.00.18.00-00.i386

In System service updates: 21
PATCH#  NAME
0       ntp-4.2.4p8-1.el5.pp.i386.000
1       nortel-cs1000-csv-6.00.18.65-04.i386.000
4       nortel-cs1000-linuxbase-6.00.18.65-03.i386.001
5       nortel-cs1000-patchWeb-6.00.18.65-01.i386.001
7       nortel-cs1000-bcc_6-0-6.00.18.65-02.i386.000
9       nortel-cs1000-cs1000WebService_6-0-6.00.18.65-02.i386.
10      nortel-cs1000-ftrpkg-6.00.18.65-02.i386.000
12      nortel-cs1000-sps-6.00.18.63-00.i386.000
13      nortel-cs1000-gk-6.00.18.65-01.i386.000
14      nortel-cs1000-tps-6.00.18.65-19.i386.000
17      nortel-cs1000-vtrk-6.00.18.65-76.i386.000
22      nortel-cs1000-shared-general-6.00.18.62-00.i386.000
23      nortel-cs1000-shared-pbx-6.00.18.62-00.i386.000
24      nortel-cs1000-emWeb_6-0-06.00.18.63-01.i386.001
25      nortel-cs1000-pd-6.00.18.62-00.i386.000
26      nortel-cs1000-nrsm-6.00.18.62-00.i386.000
28      nortel-cs1000-dmWeb-6.00.18.62-00.i386.001
30      nortel-cs1000-csmWeb-6.00.18.62-00.i386.001
31      nortel-cs1000-auth-6.00.18.62-00.i386.000
32      nortel-cs1000-ISECSH-6.00.18.62-00.i386.000
34      nortel-cs1000-dbcom-6.00.18.65-01.i386.001


The following SP is in service: Service_Pack_Linux_6.00_18_20110104.ntl
```

# Installed call server dependency lists

```
VERSION 4121
RELEASE 6
ISSUE 00 R +
DepList 1: core Issue: 02 (created: 2011-01-10 09:38:29 (est))

IN-SERVICE PEPS
PAT# CR #            PATCH REF #     NAME      DATE        FILENAME
SPECINS
000  Q02033000       ISS1:1of1       p28736_1  04/02/2011  p28736_1.cpl
001  Q02071451       ISS1:1OF1       p29164_1  04/02/2011  p29164_1.cpl
002  Q02129706       ISS1:1OF1       p29842_1  04/02/2011  p29842_1.cpl
003  wi00826342      ISS2:1OF1       p30471_2  04/02/2011  p30471_2.cpl
004  Q02093188       ISS1:1OF1       p29352_1  04/02/2011  p29352_1.cpl
005  Q02097405       ISS1:1OF1       p24463_1  04/02/2011  p24463_1.cpl
006  Q01987279-02    ISS1:1OF1       p28416_1  04/02/2011  p28416_1.cpl
007  Q02076740       ISS1:1OF1       p29154_1  04/02/2011  p29154_1.cpl
008  Q02029209       ISS1:1OF1       p28469_1  04/02/2011  p28469_1.cpl
009  Q02024455-01    ISS1:1OF1       p28717_1  04/02/2011  p28717_1.cpl
010  Q01983521-04    ISS1:1OF1       p27616_1  04/02/2011  p27616_1.cpl
011  Q02035822-01    ISS1:1OF1       p29212_1  04/02/2011  p29212_1.cpl
012  Q01986974-05    ISS1:1OF1       p28821_1  04/02/2011  p28821_1.cpl
013  Q02049121-01    ISS1:1OF1       p28819_1  04/02/2011  p28819_1.cpl
014  Q02097631       ISS1:1OF1       p28328_1  04/02/2011  p28328_1.cpl
015  Q02064793-06    ISS1:1OF1       p27947_1  04/02/2011  p27947_1.cpl
016  Q01976701-01    ISS1:1OF1       p28211_1  04/02/2011  p28211_1.cpl
017  Q02092223       ISS1:1OF1       p29343_1  04/02/2011  p29343_1.cpl
018  Q02043398       ISS1:1OF1       p28869_1  04/02/2011  p28869_1.cpl
019  Q02038440       ISS1:1OF1       p28674_1  04/02/2011  p28674_1.cpl
020  Q02100965       ISS1:1OF1       p29450_1  04/02/2011  p29450_1.cpl
021  Q02040015       ISS1:1OF1       p28657_1  04/02/2011  p28657_1.cpl
022  Q02102219-01    ISS1:1OF1       p29464_1  04/02/2011  p29464_1.cpl
023  Q02035396       ISS1:1OF1       p28675_1  04/02/2011  p28675_1.cpl
024  Q02020734-02    ISS1:1OF1       p28668_1  04/02/2011  p28668_1.cpl
025  Q02077909       ISS1:1of1       p29272_1  04/02/2011  p29272_1.cpl
026  Q02064503       ISS1:1OF1       p29196_1  04/02/2011  p29196_1.cpl
027  Q02041981       p28695_1        p28719_1  04/02/2011  p28719_1.cpl
028  Q02122052       ISS1:1OF1       p29726_1  04/02/2011  p29726_1.cpl
029  Q02135191       ISS1:1OF1       p29935_1  04/02/2011  p29935_1.cpl
030  Q02041702       ISS1:1OF1       p28698_1  04/02/2011  p28698_1.cpl
031  Q02041385-02    ISS1:1OF1       p29032_1  04/02/2011  p29032_1.cpl
032  Q02086333       ISS1:1OF1       p29262_1  04/02/2011  p29262_1.cpl
033  Q02077848-01    ISS1:1OF1       p29320_1  04/02/2011  p29320_1.cpl
034  Q02034783-01    p28596          p28594_1  04/02/2011  p28594_1.cpl
035  Q02156053       ISS1:1OF1       p30176_1  04/02/2011  p30176_1.cpl
036  Q02007476       ISS1:1OF1       p28031_1  04/02/2011  p28031_1.cpl
037  Q02134312-01    ISS1:1OF1       p30123_1  04/02/2011  p30123_1.cpl
038  Q02017013-01    ISS1:1OF1       p28313_1  04/02/2011  p28313_1.cpl
039  Q02114752       ISS1:1OF1       p29718_1  04/02/2011  p29718_1.cpl
040  Q02110973       ISS1:1OF1       p29690_1  04/02/2011  p29690_1.cpl
041  Q02107402       ISS1:1of1       p29512_1  04/02/2011  p29512_1.cpl
042  Q02100914       ISS1:1OF1       p28597_1  04/02/2011  p28597_1.cpl
043  Q02036885-02    ISS1:1OF1       p28857_1  04/02/2011  p28857_1.cpl
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045  Q02079849       ISS1:1OF1       p29238_1  04/02/2011  p29238_1.cpl
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047  Q01782930-01    ISS1:1OF1       p24964_1  04/02/2011  p24964_1.cpl
048  Q02031323-01    ISS1:1of1       p28546_1  04/02/2011  p28546_1.cpl
049  Q02100456-01    ISS1:1 OF 1     p29755_1  04/02/2011  p29755_1.cpl
050  Q02033139       ISS1:1OF1       p28582_1  04/02/2011  p28582_1.cpl
051  Q02032955-02    ISS1:1OF1       p28529_1  04/02/2011  p28529_1.cpl
052  Q02043226-02    ISS1:1OF1       p29125_1  04/02/2011  p29125_1.cpl
053  Q02039427-02    ISS1:1OF1       p28849_1  04/02/2011  p28849_1.cpl
054  Q02095838       1SS1:1OF1       p28852_1  04/02/2011  p28852_1.cpl
055  Q02119261       ISS2:1OF1       p29613_2  04/02/2011  p29613_2.cpl
056  Q02058567-01    ISS1:1OF1       p28965_1  04/02/2011  p28965_1.cpl
057  Q02027777       ISS1:1OF1       p28471_1  04/02/2011  p28471_1.cpl
058  Q02034835       ISS1:1OF1       p28569_1  04/02/2011  p28569_1.cpl
059  Q02038482       ISS1:1OF1       p28682_1  04/02/2011  p28682_1.cpl
060  Q02077171       ISS1:1OF1       p29169_1  04/02/2011  p29169_1.cpl
061  Q02028560-04    ISS1:1OF1       p28564_1  04/02/2011  p28564_1.cpl
062  Q02039217-01    ISS1:1OF1       p28760_1  04/02/2011  p28760_1.cpl
063  Q02129264       ISS1:1OF1       p29827_1  04/02/2011  p29827_1.cpl
064  Q02022264       ISS1:1OF1       p28486_1  04/02/2011  p28486_1.cpl
065  Q02097948       ISS1:1OF1       p29443_1  04/02/2011  p29443_1.cpl
066  Q01938235-05    ISS2:1OF1       p28418_2  04/02/2011  p28418_2.cpl
067  Q02031502       ISS1:1OF1       p28832_1  04/02/2011  p28832_1.cpl
068  Q02109161       ISS1:1OF1       p29536_1  04/02/2011  p29536_1.cpl
069  Q02159328-01    ISS1:1OF1       p30223_1  04/02/2011  p30223_1.cpl
070  Q02007976-03    ISS1:1OF1       p28028_1  04/02/2011  p28028_1.cpl
071  Q02019323       ISS1:1OF1       p28551_1  04/02/2011  p28551_1.cpl
072  Q02048680       ISS1:1OF1       p28983_1  04/02/2011  p28983_1.cpl
073  Q02043669       ISS1:1OF1       p28771_1  04/02/2011  p28771_1.cpl
074  Q02092594       ISS1:1OF1       p27830_1  04/02/2011  p27830_1.cpl
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076  Q02011613-01    ISS1:1OF1       p28108_1  04/02/2011  p28108_1.cpl
077  Q02024749-02    ISS1:1OF1       p29680_1  04/02/2011  p29680_1.cpl
078  Q02033951       ISS1:1OF1       p28579_1  04/02/2011  p28579_1.cpl
079  Q02093256-03    ISS1:1OF1       p29354_1  04/02/2011  p29354_1.cpl
080  Q02031118       ISS1:1OF1       p28680_1  04/02/2011  p28680_1.cpl
081  Q02083027       ISS1:1OF1       p29233_1  04/02/2011  p29233_1.cpl
082  Q02031359       p28679          p28725_1  04/02/2011  p28725_1.cpl
083  Q00349046-03    ISS1:1OF1       p17588_1  04/02/2011  p17588_1.cpl
084  Q02031959       ISS1:1OF1       p28728_1  04/02/2011  p28728_1.cpl
085  Q02058296-04    ISS1:1OF1       p28956_1  04/02/2011  p28956_1.cpl
086  Q02020526       ISS1:1OF1       p28537_1  04/02/2011  p28537_1.cpl
087  Q02029228-01    ISS1:1OF1       p28681_1  04/02/2011  p28681_1.cpl
088  Q02124953       ISS1:1OF1       p29744_1  04/02/2011  p29744_1.cpl
089  Q02038675       ISS1:1OF1       p28665_1  04/02/2011  p28665_1.cpl
090  Q02084339-02    ISS1:1OF1       p29137_1  04/02/2011  p29137_1.cpl
091  Q02055997       ISS1:1OF1       p28895_1  04/02/2011  p28895_1.cpl
092  Q02043231       ISS1:1OF1       p28712_1  04/02/2011  p28712_1.cpl
093  Q02021470-02    ISS1:1OF1       p28776_1  04/02/2011  p28776_1.cpl
094  Q02035555       ISS1:1OF1       p28814_1  04/02/2011  p28814_1.cpl
095  Q02105638-01    1SS1:1OF1       p29675_1  04/02/2011  p29675_1.cpl
096  Q02044341       ISS1:1OF1       p28957_1  04/02/2011  p28957_1.cpl
097  Q02172404       ISS1:1OF1       p30357_1  04/02/2011  p30357_1.cpl
098  Q02073690       ISS1:1OF1       p29208_1  04/02/2011  p29208_1.cpl
099  Q02096318       ISS1:1of1       p29423_1  04/02/2011  p29423_1.cpl
100  Q02030977       ISS1:1OF1       p28507_1  04/02/2011  p28507_1.cpl
```

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101  Q01999478-01    ISS1:1OF1       p27897_1  04/02/2011  p27897_1.cpl
102  Q02108852       ISS1:1OF1       p29825_1  04/02/2011  p29825_1.cpl
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105  Q02124220       ISS1:1OF1       p29943_1  04/02/2011  p29943_1.cpl
106  Q02137476       ISS1:1OF1       p29962_1  04/02/2011  p29962_1.cpl
107  Q02094012       ISS1:1OF1       p29370_1  04/02/2011  p29370_1.cpl
108  Q01884473-01    ISS1:1OF1       p26726_1  04/02/2011  p26726_1.cpl
109  Q02006644-03    ISS1:1OF1       p30135_1  04/02/2011  p30135_1.cpl
110  Q02011541-03    ISS1:1OF1       p29998_1  04/02/2011  p29998_1.cpl
111  Q02164720       ISS1:1OF1       p30282_1  04/02/2011  p30282_1.cpl
112  Q02077977-01    ISS1:1OF1       p29177_1  04/02/2011  p29177_1.cpl
113  Q02109731-02    ISS1:1OF1       p29694_1  04/02/2011  p29694_1.cpl
114  Q02071739       ISS1:1OF1       p29096_1  04/02/2011  p29096_1.cpl
115  Q02058669-01    ISS1:1OF1       p30124_1  04/02/2011  p30124_1.cpl
116  wi00820216      Iss1:1of1       p30447_1  04/02/2011  p30447_1.cpl
117  Q02088715-02    ISS3:1OF1       p29077_3  04/02/2011  p29077_3.cpl
118  Q02140914-02    ISS1:1OF1       p30004_1  04/02/2011  p30004_1.cpl
119  Q01982233-06    ISS1:1OF1       p28172_1  04/02/2011  p28172_1.cpl
120  Q02057782-01    ISS1:1OF1       p29215_1  04/02/2011  p29215_1.cpl
121  Q01974578-04    ISS1:1OF1       p27329_1  04/02/2011  p27329_1.cpl
122  Q02052184-01    ISS1:1OF1       p30288_1  04/02/2011  p30288_1.cpl
123  Q02150271       ISS1:1OF1       p30104_1  04/02/2011  p30104_1.cpl
124  Q02151971       ISS1:1OF1       p30156_1  04/02/2011  p30156_1.cpl
125  Q02111317       ISS1:1OF1       p29844_1  04/02/2011  p29844_1.cpl
126  Q02121311       ISS1:1OF1       p29728_1  04/02/2011  p29728_1.cpl
127  Q02149096       ISS1:1OF1       p30090_1  04/02/2011  p30090_1.cpl
128  Q02007724-04    ISS1:1OF1       p29681_1  04/02/2011  p29681_1.cpl
129  Q02040038-03    ISS1:1OF1       p28647_1  04/02/2011  p28647_1.cpl
130  Q02158724       ISS1:1OF1       p30210_1  04/02/2011  p30210_1.cpl
131  Q02103392-01    ISS1:1OF1       p29480_1  04/02/2011  p29480_1.cpl
132  Q02061039-04    ISS1:1OF1       p28927_1  04/02/2011  p28927_1.cpl
133  Q02039403-01    ISS1:1OF1       p29378_1  04/02/2011  p29378_1.cpl
134  Q02108821-01    ISS1:1OF1       p29529_1  04/02/2011  p29529_1.cpl
135  Q02109705-04    ISS1:1OF1       p29701_1  04/02/2011  p29701_1.cpl
136  Q02131549       ISS1:1OF1       p30065_1  04/02/2011  p30065_1.cpl
137  Q02066737-05    ISS1:1OF1       p29537_1  04/02/2011  p29537_1.cpl
138  Q01925518-06    ISS2:1OF1       p29491_2  04/02/2011  p29491_2.cpl
139  Q02077764-04    ISS1:1OF1       p29174_1  04/02/2011  p29174_1.cpl
140  wi00733835      ISS1:1OF1       p30418_1  04/02/2011  p30418_1.cpl
141  Q02125731       ISS1:1OF1       p29802_1  04/02/2011  p29802_1.cpl
142  Q01873266-02    ISS1:1OF1       p25747_1  04/02/2011  p25747_1.cpl
143  Q02110455-03    ISS1:1OF1       p29670_1  04/02/2011  p29670_1.cpl
144  Q00350041-01    ISS1:1OF1       p16376_1  04/02/2011  p16376_1.cpl
145  Q02095619-04    ISS2:1OF1       p29376_2  04/02/2011  p29376_2.cpl
146  Q02113482       ISS1:1OF1       p30294_1  04/02/2011  p30294_1.cpl
147  Q02071694-04    ISS1:1OF1       p29679_1  04/02/2011  p29679_1.cpl
148  Q01974383-02    ISS1:1OF1       p27378_1  04/02/2011  p27378_1.cpl
149  Q02104745-01    ISS1:1OF1       p29495_1  04/02/2011  p29495_1.cpl
150  Q02124023-03    ISS1:1OF1       p29903_1  04/02/2011  p29903_1.cpl
151  Q02157668       ISS1:1OF1       p30204_1  04/02/2011  p30204_1.cpl
152  Q02110441-01    ISS1:1OF1       p29577_1  04/02/2011  p29577_1.cpl
153  Q02144165       ISS1:1OF1       p30036_1  04/02/2011  p30036_1.cpl
154  Q02112375-02    ISS1:1OF1       p29671_1  04/02/2011  p29671_1.cpl
155  Q02019660-04    ISS2:1OF1       p28252_2  04/02/2011  p28252_2.cpl
156  Q02108873-02    ISS1:1OF1       p29590_1  04/02/2011  p29590_1.cpl
```

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157  wi00734106      ISS1:1OF1       p30421_1  04/02/2011  p30421_1.cpl
158  Q02170814       ISS1:1OF1       p30345_1  04/02/2011  p30345_1.cpl
159  Q02157937       ISS1:1OF1       p30218_1  04/02/2011  p30218_1.cpl
160  wi00830941      ISS1:1OF1       p30461_1  04/02/2011  p30461_1.cpl
161  Q02120030       ISS1:1OF1       p29713_1  04/02/2011  p29713_1.cpl
162  wi00732114      ISS1:1OF1       p30398_1  04/02/2011  p30398_1.cpl
163  wi00730573      p29355          p30416_1  04/02/2011  p30416_1.cpl
164  Q02155346-01    ISS3:1OF1       p30074_1  04/02/2011  p30074_1.cpl
165  wi00833809      ISS1:1OF1       p30540_1  04/02/2011  p30540_1.cpl
166  wi00795545      ISS1:1OF1       p30336_1  04/02/2011  p30336_1.cpl
167  Q02168320       ISS1:1OF1       p30346_1  04/02/2011  p30346_1.cpl
168  Q02122642       ISS1:1OF1       p29732_1  04/02/2011  p29732_1.cpl
169  Q01994258-03    ISS1:1OF1       p30303_1  04/02/2011  p30303_1.cpl
170  wi00835128      ISS1:1OF1       p30554_1  04/02/2011  p30554_1.cpl
171  Q02079612-02    ISS1:1OF1       p29191_1  04/02/2011  p29191_1.cpl
172  Q02157822-01    ISS1:1OF1       p30197_1  04/02/2011  p30197_1.cpl
173  Q02116276-01    ISS1:1OF1       p29723_1  04/02/2011  p29723_1.cpl
174  wi00826065      ISS1:1OF1       p30452_1  04/02/2011  p30452_1.cpl
175  Q02155698       ISS1:1OF1       p30172_1  04/02/2011  p30172_1.cpl
176  Q02167838       p29830          p30324_1  04/02/2011  p30324_1.cpl
177  wi00821858      ISS1:1OF1       p30243_1  04/02/2011  p30243_1.cpl
178  Q02136557       ISS2:1OF1       p29899_2  04/02/2011  p29899_2.cpl
179  WI00824134      ISS1:1OF1       p30456_1  04/02/2011  p30456_1.cpl
180  Q02062971       ISS1:1OF1       p29028_1  04/02/2011  p29028_1.cpl
181  wi00834380      ISS1:1OF1       p30548_1  04/02/2011  p30548_1.cpl
182  wi00819538      p30085          p30527_1  04/02/2011  p30527_1.cpl
MDP>LAST SUCCESSFUL MDP REFRESH :2011-01-10 17:38:55(Local Time)
MDP>USING DEPLIST ZIP FILE DOWNLOADED :2011-01-10 09:38:29(est)
```

# Installed call server patches and plug-ins

```
14/02/11 13:58:36
TID: 46379

VERSION 4121

System type is - Communication Server 1000E/CPPM Linux
CPPM - Pentium M 1.4 GHz

IPMGs Registered:               1
IPMGs Unregistered:             0
IPMGs Configured/unregistered:  0

RELEASE 6
ISSUE 00 R  +
IDLE_SET_DISPLAY Rls6 CoRes2
DepList 1: core Issue: 02(created: 2011-01-10 09:38:29 (est))

MDP>LAST SUCCESSFUL MDP REFRESH :2011-01-10 17:38:55(Local Time)
MDP>USING DEPLIST ZIP FILE DOWNLOADED :2011-01-10 09:38:29(est)
SYSTEM HAS NO USER SELECTED PEPS IN-SERVICE


LOADWARE VERSION: PSWV 100

INSTALLED LOADWARE PEPS : 0

ENABLED PLUGINS : 1

PLUGIN    STATUS      PRS/CR_NUM    MPLR_NUM      DESCRIPTION
------------------------------------------------------------
206       ENABLED     Q00954846     MPLR19491     PI:Connected party number
inserted at the tandem node
```

Please e-mail any questions or comments pertaining to these Application Notes along with the full title name and filename, located in the lower right corner, directly to the Avaya DevConnect Program at devconnect@avaya.com.